Research review: can we justify the widespread dissemination of universal, school-based interventions for the prevention of depression among children and adolescents?

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CRD summary
The authors concluded that there is currently no consistent evidence that universal school-based programmes for the prevention of depression are effective in reducing depressive symptoms among children and adolescents in either the short or long term. Despite some limitations in the reporting of the review methods, overall, the review was well-conducted and these conclusions seem likely to be reliable.

Authors' objectives
To assess the efficacy and effectiveness of universal school-based interventions for the prevention of depression in children and adolescents.

Searching
PsycINFO, PsycARTICLES, MEDLINE and ERIC were searched to July 2006; the search terms were reported. The references of retrieved articles were handsearched. The search was limited to studies that had been published in peer-reviewed journals.

Study selection
Studies of school-based interventions for the prevention of depression were eligible. Interventions were required to be universal (i.e. applied to whole groups of young people irrespective of risk status for depression). Interventions in the primary studies utilised content from one or more of the following areas: psycho-education, pleasant event scheduling, problem-solving, cognitive-behavioural therapy and interpersonal psychotherapy. Versions of the Penn Prevention Programme, the Resourceful Adolescent Programme, and Problem Solving for Life were used. The duration of the intervention varied from 3 to 12 sessions. One study included sessions for parents. The programmes were delivered by mental health professionals, psychology students, psychologists or teachers, with varied amounts of training. Control conditions included routine health-education classes, other placebo activities or no intervention. Studies of interventions targeting general emotional well-being were excluded.

Studies of students aged 7 to 18 years who had not been specifically identified as having risk factors for depression were eligible for inclusion. The participants in the review were school students aged approximately 10 to 16 years from a variety of socioeconomic and ethnic backgrounds.

The primary outcome of the review was depressive symptoms, measured using a well-recognised and psychometrically valid tool. The tools used in the included studies were the Center for Epidemiologic Studies-Depression Scale, the Children's Depression Inventory, the Reynolds Adolescent Depression Scale and the Beck Depression Inventory.

Controlled studies with at least 3 months' follow up were eligible for inclusion. One study followed participants up for 4 years, while in other studies the duration of follow-up ranged from 12 weeks to 18 months. The sample size in the included studies varied (where stated) from 47 to 1,500 students.

The authors did not state how the papers were selected for the review, or how many reviewers performed the selection.

Assessment of study quality
The following aspects of study quality were reported: randomisation, sample size and power, consent rate among eligible students, attrition rate, validity of measurement tool, randomisation, type of control condition, contamination, cointervention, generalisability, fidelity of programme delivery and compliance with the intervention.

The authors did not state how the validity assessment was performed.
Data extraction
For each study, the standardised mean difference between treatment groups (Cohen's effect size, d) was calculated, comparing the mean and standard deviations of post-intervention scores. If the groups differed significantly at baseline, the effect estimate was based on a between-subjects one-way analysis of covariance F ratio.

The authors did not state how the data were extracted for the review, or how many reviewers performed the data extraction.

Methods of synthesis
The studies were described in a table and combined in a narrative. In the text the results were grouped by outcomes, highlighting the better quality studies. Heterogeneity between the studies with respect to methodology, participant characteristics and type of intervention was discussed in the text.

Results of the review
Twelve studies, reported in 10 articles, were included: ten were randomised controlled trials (RCTs) and two were non-randomised controlled trials, one with a contemporaneous and one with a historical control group. The RCTs were randomised by school (n=2), class (n=3) or individual student (n=5). In one of these RCTs an additional no-intervention group was not randomly assigned.

Most of the sample sizes were small (≤225 in 6 studies) and most had low rates of consent among students eligible to participate, where stated (≤80% in 6 studies), while attrition rates were high (7 to 30% at 6 months). All studies used at least one validated questionnaire for the outcome measurement, but only two included clinical interviews. In most studies there was high potential for cross-contamination between groups and the control group failed to receive a suitable attention placebo, or else received a ‘placebo’ intervention with potentially therapeutic components. The included studies provided too few details to allow the impact of any cointerventions to be assessed. Fidelity of programme implementation was assessed independently in only 2 studies. Programme attendance rates were unreported in most studies.

In terms of heterogeneity, the impact on outcomes of gender and baseline level of depressive symptoms was inconsistent. There was no clear association between study outcomes and the content, duration, delivery format, and/or group size of the interventions.

Short-term effects on depressive symptoms.
In 4 studies that compared an intervention group with controls receiving no intervention, there were statistically significant post-intervention improvements in at least one measure of depressive symptoms in the intervention group. However, one of these 4 studies had positive results for only one of two measures and a further 8 studies reported no significant benefit associated with the intervention, compared with no intervention.

Long-term effects on depressive symptoms.
Among studies with 3 to 11 months' follow-up that compared an intervention group with controls receiving no intervention, four reported statistically significant benefits in the intervention group, but a further six reported no benefit associated with the intervention. Among studies with follow-up of 12 months or more, none reported any significant benefit associated with the intervention in comparison with no intervention. Among studies reporting no long-term benefits associated with the intervention were two RCTs that were adequately powered, used clinical interview as an outcome measure and randomly assigned schools (rather than individuals).

Authors' conclusions
There is currently no consistent evidence that universal school-based programmes for the prevention of depression are effective in reducing depressive symptoms among children and adolescents in either the short or long term.

CRD commentary
The review objectives and inclusion criteria were clear, and relevant sources were searched for studies. However, the restriction to published studies may have meant that some studies were missed. It is unclear whether steps were taken to reduce the risk of error and bias in the study selection, validity assessment and data extraction processes, such as having more than one reviewer make decisions independently. The decision not to meta-analyse the included studies appears appropriate given the heterogeneity between them. Detailed information about the primary studies was reported and differences between the studies were well addressed in the text. Despite some limitations in the reporting of the review methods, overall, the review was well-conducted and the authors’ conclusions seem likely to be reliable.

Implications of the review for practice and research
Practice: The authors stated that there is currently insufficient evidence to justify universal school-based interventions for prevention of depression in children and adolescents.

Research: The authors stated that future studies in this field should be adequately powered RCTs with no-intervention groups as well as active non-specific control conditions and at least 1 to 2 years' follow-up. Attendance, programme compliance and delivery, control group activities and the role of mediator variables should be monitored. Outcomes should include social functioning and emotional well-being. Outcome assessment should be blinded and include multi-informant reports, questionnaires and clinical interview. Cognitive-behavioural therapy, interpersonal psychotherapy, and a combination of both should be evaluated. Cost-benefit analyses and comparisons of targeted versus universal prevention programmes should also be conducted.

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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.