The effectiveness of cognitive-behavioural therapy with hopeful elements to prevent the development of depression in young people: a systematic review

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CRD summary
This review indicated that cognitive-behavioural therapy was effective at preventing depression in young people in the short term if it incorporated three hopeful elements. Longer term effectiveness might depend on content and suitability of outcome measures. These conclusions should be treated with caution due to variation between trials, but the role of hopeful elements merits further research.

Authors' objectives
To investigate the effectiveness of cognitive-behavioural therapy (CBT) to prevent depression in young people and to discover whether the inclusion of hopeful elements improves its effectiveness.

Searching
The authors searched a range of electronic databases including, but not restricted to, PsycINFO, CINAHL, MEDLINE and Web of Science from 1987 to March 2007. Full search strategies were reported. Relevant websites and search engines and the reference lists of identified studies were examined. The authors also handsearched key journals and journals not listed on databases. Only studies in English were sought.

Study selection
To be eligible for the review, studies had to be randomised controlled trials (RCTs) and report the effectiveness of CBT in preventing the onset of depression in young people. Papers published after 1987 were included in accordance with the diagnostic criteria for depression. Young people were defined as being between 10 and 16 years old. Trials with participants not suffering from depression (as defined by the psychological instrument used) were eligible for inclusion. Those with pre-existing disorders allied to depression were excluded. CBT was the intervention and trials had between four and 15 sessions with a follow-up of between three and 24 months. One of the following strategies was included in the intervention: the identification of negative and irrational beliefs; the establishment of links between thoughts, feelings and behaviours; or the provision of tools to self monitor thoughts, feelings and behaviours.

The outcomes of interest were the absence of depression in the CBT groups at follow-up, levels of depression in the CBT group compared with controls, and levels of depression at follow-up in the CBT groups with hopeful elements. Hopeful elements were: a focus on goals; instructions on how to generate pathways to goals; and instructions on ways to maintain 'agency' to achieve goals. Several measures were used to assess depression. The trials included children from North America, New Zealand, Germany and Australia. All except one included both male and female participants and covered a range of socioeconomic classes. Both universal and targeted interventions were included. Control treatments and outcome assessment points varied across the included trials.

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

Assessment of study quality
Two independent reviewers assessed the methodological validity of papers selected for retrieval using the standardised critical appraisal instrument from the Joanna Briggs Institute (JBI). Trials were excluded if less than 60% of respondents were available at follow-up. All disagreements between reviewers were resolved through discussion.

Data extraction
Means and standard deviations were extracted using the standard data extraction tool from the JBI. The authors did not state how many reviewers performed the data extraction.

Methods of synthesis
Results were pooled in a fixed-effect meta-analysis and the weighted mean difference (WMD) or standardised mean, as
appropriate, and corresponding 95% confidence intervals (CIs) were calculated. Heterogeneity between combined trials was assessed using the $X^2$ test. Trials were grouped and analysed according to the number of hopeful elements (zero, one, two, or three) that the CBT was judged to contain.

**Results of the review**

Ten trials yielding 12 results were included in the review (total number of participants not stated). All trials used valid psychometric scales, randomised participants, and published a protocol.

In all trials adolescents who received preventative CBT continued to score below the clinically significant cut-off score for depression at all follow-up points, but there was no significant difference between the groups in meta-analysis.

**Hopeful elements:** Trials incorporating three hopeful elements favoured CBT over no treatment or usual care at six months (WMD: -1.39, 95% CI: -2.53 to -0.25), but not at 12 or 18 months. Tests showed a significant amount of heterogeneity ($I^2=80\%$). In other analyses of hopeful elements no differences were found between treatment groups.

**Different measures:** Depression as measured by the Children's Depression Inventory was found to be less in the CBT group at six months (WMD: -1.12, 95% CI: -1.93 to -0.31, with significant heterogeneity $I^2=63.6\%$) and at 12 months (WMD: -1.25, 95% CI: -2.18 to -0.31, with no significant heterogeneity). At 18 months there were no statistically significant differences between groups. Other depression measures found no differences between treatment groups.

**Authors' conclusions**

The results indicated that CBT was effective at preventing the onset of depression in young people in the short term, but only if it contained three hopeful elements or was assessed through the Children's Depression Inventory.

**CRD commentary**

This review had defined criteria for participants, interventions, outcomes, and study designs. The authors searched a range of resources to locate trials, but only English language trials were eligible, which could have introduced language bias. Trial quality was assessed by two reviewers. It is unclear if more than one reviewer was involved in the selection and data extraction phases of the review to help prevent bias and error in these processes. The overall finding of the meta-analysis that there were no significant differences between groups may not be reliable given the variation in the intervention delivery and in control groups. The authors did, however, conduct analyses to investigate the role of hopeful elements and the influence of outcome measures. This review points to the need for further research into how best to prevent the onset of depression in children.

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

Practice: Not stated.

Research: Future research should examine the potential benefits of hopeful elements and these should be assessed through age appropriate measures of depression.

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