Psychotherapy for chronic major depression and dysthymia: a meta-analysis
Cuijpers P, van Straten A, Schuurmans J, van Oppen P, Hollon SD, Andersson G

CRD summary
This review concluded that psychotherapy was effective in the treatment of chronic depression and dysthymia, but was probably not as effective as pharmacotherapy (especially selective serotonin reuptake inhibitors). Combined psychotherapy and pharmacotherapy was more effective than either treatment alone. The review was well conducted and the conclusions appear appropriate and reliable.

Authors' objectives
To examine the effects of psychotherapy on chronic depression and dysthymia.

Searching
PubMed, PsycINFO, EMBASE and The Cochrane Library were searched from 1966 to January 2009 without language restrictions. Search terms were reported. Attempts were made to find further studies by checking reference lists of retrieved primary studies and earlier reviews.

Study selection
Randomised controlled trials (RCTs) that examined a psychological treatment in comparison to another psychological treatment or combined psychological and pharmacological treatments in adults with a chronic major depressive disorder or dysthymia were eligible for inclusion. Diagnosis had to be established using a diagnostic interview. Comorbid general medical or psychiatric disorders were eligible. Studies were excluded where insufficient data were reported to calculate an effect size.

Most participants in the included studies were married female out-patients between 30 and 50 years. Almost half of the included trials were aimed at participants with dysthymia and half were made up of participants with chronic major depression, double depression or chronic depression and/or dysthymia. Interventions included cognitive-behavioural therapy, interpersonal psychotherapy and a mixture of other psychological and behavioural therapies. Comparison groups included either a control (placebo, usual care or waiting list), pharmacotherapy or combined pharmacotherapy and psychotherapy. Combined pharmacotherapy and psychotherapy was also compared to pharmacotherapy. Treatment sessions ranged from six to 46 and most used an individual treatment format. Outcomes were measured using Hamilton Depression Rating Scale (HDRS), Beck Depression Inventory (BDI) and Cornell Dysthymia Rating Scale (CDRS).

It was not stated how many reviewers undertook study selection and how disagreements were resolved.

Assessment of study quality
The authors assessed study quality with criteria of randomisation, blinding, intention to treat (ITT) and completeness of follow up. They also assessed the quality of treatment implementation with criteria (based on Chambless and Hollon 1988) of use of a treatment manual, use of trained therapists and treatment integrity.

The authors did not state how many reviewers undertook validity assessment and how disagreements were resolved.

Data extraction
Data were extracted on demographic characteristics, definition of chronic depression, characteristics of the intervention and how it was defined. Effect sizes were calculated as the mean difference between psychotherapy and control groups divided by the pooled standard deviations (standardised mean difference) after the test was applied, but not at later stages of follow-up because this was variable between the studies. Effect sizes of 0.8 were defined as large, 0.5 as moderate and 0.2 were small. Where studies reported more than one depression measure, the mean of the effect size was calculated so that only one overall effect size was used for that study.
It was not stated how many reviewers undertook data extraction and how disagreements were resolved.

**Methods of synthesis**
Meta-analyses were undertaken with calculation of a pooled relative risk (RR) for dichotomous outcomes (dropping out from treatments) and by a pooled standardised mean difference for continuous outcomes (d) with 95% confidence intervals (CI). A random-effects model was used. Standardised mean differences were transformed into numbers needed to treat (NNT). Assessment of heterogeneity was undertaken with the I² statistic and Cochran's Q statistic.

Subgroup analyses were conducted by type of depression and by type of treatment. Subgroup analyses were undertaken according to the mixed-effect model (by pooling studies with the random-effects model and testing for significant differences between subgroups with the fixed-effect model). Sensitivity analyses were conducted by removal of individual studies from the meta-analyses to examine their influence on the results. Meta-regression analyses were undertaken to test whether there was a significant relationship between continuous variables and the effect size. Publication bias was assessed by inspecting the funnel plot on primary outcome measures and by the trim and fill procedure (Duval and Tweedie 2000).

**Results of the review**
Sixteen RCTs (n=2,116) were included in the review. Study quality with regard to risk of bias was variable: 10 trials reported methods of randomisation, 11 reported on blinding of assessors and intention to treat was reported in six trials. The quality of treatment implementation of the included studies was good: treatment manual (13 studies), trained therapists (15 studies) and assessment of integrity of treatment (12 studies). The studies were mostly undertaken in North America or Europe.

Psychotherapy had a small but significant effect (d=0.23, 95% CI 0.06 to 0.41; eight studies) on depression when compared to control groups, with no significant heterogeneity and a number needed to treat of 7.7. Psychotherapy was significantly less effective than pharmacotherapy in direct comparisons (d=-0.31, 95% CI -0.53 to -0.09, NNT=5.8; 10 studies). Heterogeneity for this comparison was moderate to high.

In subgroup analyses, the benefit of pharmacotherapy appeared to be limited to selective serotonin releasing inhibitors (SSRIs) rather than tricyclic antidepressants (TCA) (d=-0.47, 95% CI -0.75, -0.18); this finding was limited to participants with dysthymia. When pharmacotherapy alone was compared with combined treatment (pharmacotherapy plus psychotherapy) there was a strong trend in favour of combined treatment (d=0.23, 95% CI -0.01 to -0.47, NNT=7.7; nine studies), with moderate heterogeneity. Combined treatment was significantly more effective than psychotherapy alone (d=0.45, 95% CI 0.2 to 0.7, NNT=4; four studies), with moderate heterogeneity. No significant differences were found in the drop out rates between psychotherapy and other interventions. Meta-regression that explored the association between effect size and number of sessions of psychotherapy indicated that each extra psychotherapy session increased the effect size by 0.04 points. There was no evidence of publication bias.

**Authors' conclusions**
Psychotherapy was effective in the treatment of chronic depression and dysthymia, but probably not as effective as pharmacotherapy (particularly selective serotonin reuptake inhibitors).

**CRD commentary**
The review addressed a clear research question and was supported by appropriate inclusion criteria. A range of searching methods was employed without language restriction. Attempts were made to locate unpublished studies. Funnel plot analysis and the trim and fill procedure were used to formally assess the likelihood of publication bias. Appropriate methods of quality assessment (for risk of bias and treatment implementation) were performed. The quality of the included studies was variable, but treatment implementation was mostly adequate. Methods for study selection, validity assessment and data extraction were not stated, so it was not possible to exclude reviewer error and bias in the review process. Use of meta-analysis to pool studies was appropriate. Measurement of heterogeneity indicated that non placebo-controlled comparisons had significant variation between studies, which limited the strength and precision of the findings. The number of studies was small for each comparison, which limited the power...
of subgroup analyses to determine real differences between subgroups and causes of heterogeneity. The clinical heterogeneity between studies also limited the generalisability of the findings to other patient groups. The finding that pharmacotherapy (particularly selective serotonin reuptake inhibitors) was more effective than psychotherapy was confounded by the fact that these studies were limited to patients with dysthymia and this limited the interpretation of this finding. Sensitivity analyses indicated that one high-quality study with a relatively high improvement rate had considerable impact on the findings, which suggested that psychotherapy may have been more effective than suggested by the pooled summary effect sizes.

Despite the above limitations, the review was generally well conducted and the authors' conclusions reflect the evidence and appear reliable.

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

**Practice**: The authors stated that combined treatments for chronic major depression should be used and psychotherapy as a standalone treatment in patients with dysthymia was not advised.

**Research**: The authors stated that more high-quality studies were needed to examine the specific components of psychotherapy that reduce symptoms and examine whether effects were different in people with dysthymia and chronic depression.

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