## Psychological interventions for major depression in primary care: a meta-analytic review of randomized controlled trials

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### CRD summary

This review of psychological interventions for major depression in primary care concluded that brief treatments were more effective than GP-delivered usual care in reducing symptoms and may be equivalent to antidepressant therapy. Many aspects of this review were well-conducted, but due to a paucity of reporting in several areas the conclusions should not be regarded as reliable.

### Authors' objectives

To evaluate the effectiveness of psychological interventions delivered in primary care settings for major depression, compared with usual general practitioner (GP) treatment or antidepressant drug treatment.

### Searching

MEDLINE, EMBASE, PsycINFO and The Cochrane Library were searched from January 1995 to June 2006. Search terms were reported. The date restrictions were applied to improve the methodological quality of the retrieved studies. Only English-language papers were considered. Reference lists were checked and well-known experts were contacted for further studies.

### Study selection

Published randomised controlled trials (RCTs) were eligible where they compared psychological interventions with usual GP care or antidepressant drug treatment in patients diagnosed with major depression according to specified classification systems. Participants had to be recruited and psychological treatments delivered in primary care settings. Psychological interventions were required to defined criteria. Psychological interventions delivered in combination with other treatments were ineligible.

Included RCTs were conducted in UK, Australia and USA. The population was largely composed of women (83%). Mean age was 35.5 years (range 18 to 79 years). Psychological interventions included cognitive behaviour therapy (CBT), counselling, stress management, psychodynamic therapy, problem-solving therapy and interpersonal therapy. Interventions were usually carried out as individual sessions. Sessions lasted between 15 and 90 minutes and took place weekly for six to 16 weeks (median six). In most trials the psychological intervention was provided by health professionals who were not GPs. Antidepressants prescribed were nortriptyline, amitriptyline, fluvoxamine or paroxetine (where reported). Usual GP care included medication, counselling and referral to specialists; where medication was used this ranged from 49% to 96% by trial (where reported). Outcomes were not prespecified, but all except one study reported the Hamilton Depression Rating Scale and/or the Beck Depression Inventory.

The authors reported neither how the papers were selected for this review nor how many reviewers performed study selection.

### Assessment of study quality

Validity was assessed using the Cochrane Collaboration on Depression, Anxiety and Neurosis Quality Rating Scale (CCDAN). This scale was adapted to account for primary care-based trials by removing the items pertaining to participant and interviewer blinding and treatment side effects. Each remaining item was scored as 0, 1 or 2 giving a total score between 0 and 40. Two reviewers independently assessed each study and resolved disagreements by consensus.

### Data extraction

Data on the Beck Depression Inventory or Hamilton Depression Rating Scale were extracted for each included study as mean and standard deviation. Where two outcome measures were reported, Beck Depression Inventory was preferred. Treatment effect sizes for each study were calculated as standardised mean differences (SMD) and 95% confidence
intervals (CI). All authors were contacted by email to request more information on the content of usual GP care and any cointerventions provided alongside the psychological intervention.

The authors reported neither how the data were extracted for this review nor how many reviewers performed the data extraction.

Methods of synthesis
A fixed-effects model was used to pool the SMDs from each included study and calculate overall SMD for short-term (one to six months) and long-term (more than six months) outcomes. A random-effects model was used to verify the results. Analyses were carried out to compare psychological intervention with usual GP care and psychological intervention versus pharmacotherapy. Subgroup analysis was used to explore the impact of type of psychological treatment versus usual GP care. Sensitivity analyses were conducted (excluding studies scoring <30 and/or trials with high attrition rates of 40% to 70%) to test the robustness of the results. Heterogeneity was evaluated using the $X^2$ test and the $I^2$ statistic.

Results of the review
Ten RCTs (n=1,736) were included in this review (based on 12 publications). Study quality scores ranged from 24 to 37 out of a possible 40 points. Three studies scored less than 30 on the basis of small sample size, poor description of refusals, withdrawals and participant characteristics, and incomplete statistical analyses for drop-outs. Attrition rates ranged from 17% to 70% across the included studies.

Psychological interventions versus usual GP care: Six trials (n=727) assessed both short-term and long-term outcomes for this comparison. Psychological interventions resulted in significantly lower levels of symptoms than usual GP care for both time periods. Short-term SMD was -0.42 (95% CI -0.59 to -0.26, p<0.001) with no significant heterogeneity. Long-term SMD was -0.30 (95% CI -0.45 to -0.14, p=0.002) with significant heterogeneity present ($I^2=70.9\%$). Sensitivity analyses were used to explore this variation; random-effects models produced similar results. Exclusion of studies with lower quality scores or attrition problems and subgroup analysis by type of therapy did not substantially remove the heterogeneity.

Psychological interventions versus pharmacological intervention: Four trials (n=295) assessed short-term outcomes. Three trials (n=217) assessed long-term outcomes. No significant differences in depressive symptomatology was found in either analysis between the two interventions. No significant heterogeneity was noted. Random-effects models and sensitivity analyses did not substantially alter the results.

Authors' conclusions
Psychological treatments in primary care were significantly linked to clinical improvement in symptoms of depression and may be useful supplements to usual GP care. Although psychological treatments appeared to be equivalent to antidepressant treatment, this finding should be considered with caution given the small number of patients in the few available trials. Further large-scale RCTs were required.

CRD commentary
This review addressed a clear question with appropriate inclusion criteria. The searches were relatively comprehensive, but exclusion of unpublished studies and non-English publications may have introduced language and publication biases. The review processes were not fully reported (study selection and data extraction procedures), so it was difficult to be sure that reviewer error and bias had been minimised. Validity was assessed using a modified tool, but only summary scores were presented, which made it difficult to appraise the quality of the individual studies. Meta-analysis seemed appropriate for this data, but where studies contained multiple psychological intervention arms it was unclear how this data was incorporated in the analyses. Pooling of different psychological interventions may not have been appropriate. As the authors noted, long-term comparison of psychological and usual GP care was characterised by high levels of unexplainable heterogeneity; therefore, this result should be considered cautiously. Overall many aspects of this review were well-conducted, but due to the paucity of reporting in several areas the conclusions should not be regarded as reliable.
Implications of the review for practice and research

**Practice:** The authors stated that psychological forms of intervention for major depression in primary care may be useful to supplement usual GP care.

**Research:** The authors concluded that further large-scale RCTs should be conducted with representative samples that include male, elderly populations. These trials should be conducted in a wider range of European health care settings, examine longer-term outcomes and rigorously describe all treatments received.

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