Effects of psychotherapy and other behavioral interventions on clinically depressed older adults: a meta-analysis

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CRD summary
This review firmly concluded that psychotherapeutic interventions, in particular cognitive behavioural therapy and reminiscence, were effective in reducing symptoms of clinical depression in older adults. Overall, the authors’ conclusions appear to follow from the data presented, but caution is advised given difficulties in assessing the reliability of the review methods and the quality of the studies.

Authors’ objectives
To evaluate the effects of psychotherapy and other behavioural interventions on depressive symptoms in older patients with clinical depression.

Searching
MEDLINE, PsycINFO and PSYindex were searched. Search terms, but not the search dates were reported.

Study selection
Comparative studies that measured depression change scores in older adults with clinical depression who underwent psychological and/or behavioural treatment in comparison with an untreated control group were eligible for inclusion in the review. Eligible participants had to meet the ICD 10 (International Statistical Classification of Diseases and Related Health Problems 10th Revision), DSM-III (Diagnostic and Statistical Manual of Mental Disorders, 3rd Edition), DSM-III-R (DSM-III, Revised) or DSM-IV criteria for major or minor depressive disorder or dysthymic disorder. Studies that assessed combined psychosocial and pharmacological treatments were excluded from the review, as were studies that compared the effects of two treatments without a control group.

The main interventions assessed in the included studies were: cognitive behavioural therapy; reminiscence; psychodynamic therapy; interpersonal psychotherapy (IPT); supportive interventions; physical exercise; and psychoeducational therapy. Control groups included placebo, active placebo (for example, global socialising) and usual care. Most included studies assessed mixed groups of patients with major or minor depressive disorders or dysthymia (although a large number of the remaining studies assessed patients with only major depressive symptoms). The mean age of participants was 71.8 years (standard deviation 5.4). Most patients were female. Most underwent outpatient treatment in a group setting. Symptom severity was assessed usually using the Geriatric Depression Scale, Beck Depression Inventory or the Hamilton Depression Rating Scale. Clinician and patient-rated outcomes were reported.

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

Assessment of study quality
Study validity was assessed using the following criteria: use of random assignment; sample size of at least 10 patients in each study group; presence/absence of demographic or clinical differences between the intervention and control groups at baseline; and whether the exact effect size was reported or had to be estimated from reported levels of significance or figures. Each criterion scored either 0 or 1 point and a total score was awarded; higher scores indicated better quality studies. The authors did not state how the validity assessment was performed.

Data extraction
Two reviewers extracted the study data. Disagreements were resolved through consensus. Cohen’s d effect sizes with 95% confidence intervals (CIs) were calculated for each study using the difference in post-treatment outcomes between intervention and control groups divided by the pooled standard deviation. Effect sizes were adjusted for confounding bias. The number of dropouts was extracted where available and used to calculate odds ratios with 95% CIs. Other intervention and patient characteristics that could influence the effect size were extracted.
Methods of synthesis
Pooled weighted mean effect sizes were calculated with 95% CIs. Homogeneity was assessed using the Q statistic. Further analyses were carried out to identify predictive variables using weighted least squares regression analyses. The clinical significance of effect sizes was assessed according to Cohen's criteria (large, medium or small effect sizes) and the Binomial Effect Size Display (BESD; the percentage of patients showing above average improvement).

Results of the review
Fifty-seven controlled studies with a total of 1,956 treated patients were reported in the review. Most studies (87%) randomly assigned participants to study groups. The mean quality score was 3.47 (standard deviation 0.67) out of a possible maximum score of 4.

Depression: Overall, across the included studies self-rated depression improved on average by d=0.84 standard deviation units and clinician-rated depression by d=0.93. Large effect sizes were reported for cognitive behavioural therapy and reminiscence. Medium effect sizes were reported for psychodynamic therapy, psychoeducation, physical exercise and supportive interventions. Differences in treatment effects were not associated with participant age. Weaker effects were reported for studies with an active control group (as compared to placebo, β (regression coefficient)=-5.3, t (test of significance)=-4.97, p<0.001) and in studies of physically ill or cognitively impaired patients (β=0.22, t=-2.23, p<0.05). Studies where patients exclusively suffered from major depression (compared with other mood disorders) were associated with weaker intervention effects (β=-0.22, t=-2.21, p<0.05). Regression analyses reported that studies with smaller sample sizes had larger effect sizes (β=0.35, t=-2.25, p<0.05). R² (explained variance)=0.34.

Dropouts: Rates were reported in 50 out of 57 studies with overall rates of 18.9% in intervention groups and 18% in control groups. Dropout rates were higher in studies of group interventions (compared with individual interventions, β=0.36, t=-2.45, p<0.05) and interventions with more sessions (β=0.35, t=1.82, p<0.05). R²=0.22.

Authors’ conclusions
This review concluded firmly that psychotherapeutic interventions, in particular cognitive behavioural therapy and reminiscence, were efficacious in older adults with clinical depression. Patients with physical or cognitive comorbidities were less likely to benefit from treatment.

CRD commentary
This review answered a clearly defined research question using searches for published but not unpublished data, which suggested that the findings may have been at risk from publication bias. The authors do not report whether language restrictions were applied, so it was unclear whether there is a risk of language bias. Some attempts to reduce reviewer error and bias were made when extracting data, but it was not reported whether similar precautions were taken when selecting studies and assessing study quality. Study quality was assessed using a limited range of criteria that may not have adequately evaluated the potential for bias within the studies. Individual study quality was not reported, but the influence of study quality and other study design and participant variables on effect size were assessed in regression analyses. Assessment of whether a sample size calculation was used could have been useful considering the generally small sample sizes of the included studies. Some analyses contained only small numbers of studies and others were not carried out due to insufficient numbers of eligible studies. The authors acknowledged a number of other limitations of their review including the lack of long-term data. Overall, the authors’ conclusions appeared to follow from the data presented, but caution is advised given difficulties in assessing the reliability of the review methods and the quality of the studies.

Implications of the review for practice and research
Practice: The authors stated that clinicians should monitor changes in motivational levels during the course of treatment. It appeared that seven to 12 sessions may have optimised effectiveness and minimised dropout. Interventions also appeared to remain effective with increasing age and so general practitioners should assess the possibility of treating such patients with depressive symptoms.

Research: The authors stated that further research was required in the form of randomised controlled trials that compared different psychotherapeutic interventions and other non-pharmacological treatments with control groups.
Such studies should follow outcome measures over a longer period of time. Further studies in patients over the age of 80 years and in those who were physically frail or who had minor depression or dysthymia were also required.

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