The effect of telephone-administered psychotherapy on symptoms of depression and attrition: a meta-analysis


CRD summary
This review concluded that telephone-administered psychotherapy could significantly reduce symptoms of depression and was associated with lower attrition rates than those reported for face-to-face psychotherapy. However, these findings may not be reliable due to concerns about the review analyses and the lack of any assessment of study validity.

Authors’ objectives
To determine how telephone-administered psychotherapy affects treatment attrition and the symptoms of depression.

Searching
MEDLINE and PsycINFO were searched from inception up to March 2006. Search terms were reported. The reference lists of review articles were screened for further studies. In addition, unpublished and published studies were sought through relevant Internet groups, including the Society for Behavioural Medicine and the American Psychological Association's Division 12 and Division 38.

Study selection
Randomised controlled trials (RCTs) of telephone-based psychotherapy for the treatment of depression in adults were eligible for inclusion in the review. Included studies were required to assess depression using a validated measure. Eligible interventions had to include exclusively telephone and not face-to-face psychotherapy, comprising at least four sessions and using a treatment manual or a clearly defined treatment approach. Uncontrolled single arm studies were also eligible for inclusion in the evaluation of pre- and post-treatment effects.

The majority of included studies compared individual cognitive behavioural therapy with treatment-as-usual. The number of weekly treatment sessions ranged from four to 16. Most interventions were delivered by a trained professional, usually either a PhD/MS level psychologist or a nurse. Depression outcomes included: the Geriatric Depression Scale, Beck Depression Inventory, Hamilton Rating Scale for Depression, Profile of Mood States, General Health Questionnaire - depression scale or Symptom Checklist-20. Included participants ranged in mean age from 32 years to 75 years and usually had a co-morbid condition. Co-morbidities included cancer, multiple sclerosis, human immunodeficiency virus/acquired immunodeficiency syndrome, lung transplantation and various chronic medical conditions. The majority of studies either exclusively assessed women or included mixed gender populations where the majority of participants were female.

Two reviewers independently assessed each study for inclusion.

Assessment of study quality
The authors did not state that they assessed validity.

Data extraction
Two reviewers independently extracted the study data. Means and standard deviations were extracted, where possible, for continuous outcomes. If these data were unavailable, means and t-values were used. Where there was insufficient data to calculate an effect size using the methods of Lipsey and Wilson, the study authors were contacted for further information. Where studies used more than one control arm, treatment-as-usual controls were selected in preference to other types of control.

Methods of synthesis
Studies were grouped according to whether they compared interventions with a control group or assessed pre-/post-treatment effects. Pooled standardised mean differences and percentage attrition rates were calculated with 95% confidence intervals. Statistical homogeneity was assessed using the Q-statistic and, where tests were significant, a
random-effects model was used. Subgroup analyses were performed to assess the following variables: treatment orientation and format; therapist specialisation and level of training; and the number of intervention sessions. Publication bias was assessed using a funnel plot.

Results of the review
Twelve studies were reported in the review. These included ten randomised controlled trials (RCTs, n=1,182), one controlled study (n=122) and one study with no controls (n=8). Sample sizes ranged from eight to 393.

Telephone-administered psychotherapy appeared to significantly reduce the symptoms of depression in comparison with control groups (standard mean difference 0.26, 95% confidence interval (CI): 0.14 to 0.39; Q=10.57, p=0.31, 10 RCTs). Post-treatment depression symptoms were also significantly reduced in comparison with pre-treatment scores for telephone-administered psychotherapy (standard mean gain 0.81, 95% CI: 0.50 to 1.13; Q=241.5, p<0.0001; 12 studies), but there was evidence of significant heterogeneity. Subgroup analyses did not identify any statistically significant contributing factors to explain the observed heterogeneity, although the analysis of therapist specialisation contained only a small number of studies and therefore may not be reliable.

The pooled attrition rate across all 12 studies was 7.4% (95% CI: 4.2 to 10.9; Q=32.4, p=0.0006), but there was evidence of significant statistical heterogeneity. Subgroup analyses suggested that treatment orientation, treatment format and therapist specialisation were all significant contributing factors to the observed heterogeneity.

The authors reported that there was no evidence of publication bias.

Authors’ conclusions
Evidence suggested that telephone-administered psychotherapy could significantly reduce the symptoms of depression and was associated with lower attrition rates than those reported for face-to-face psychotherapy.

CRD commentary
This review answered a clear research question using different types of study designs. Literature searches were carried out to identify both published and unpublished studies, although it is not clear whether any language limitations were applied, so the risk of language bias cannot be ruled out. Steps were taken to reduce the risk of reviewer error and bias throughout the review process, with two reviewers independently carrying out each process. The quality of the included studies was not assessed, so it was difficult to determine whether the review findings were reliable. Studies were combined in the primary analysis, despite the suggestion of significant clinical differences between the study populations and interventions, although no evidence of statistical heterogeneity was reported. The secondary analyses of pre- and post-treatment effects and attrition rates are unlikely to be reliable for a number of reasons. Firstly, there was evidence of statistical heterogeneity. Secondly, the pooled studies appeared to differ clinically in terms of their populations, interventions and comparators. Some attempts were made to investigate potential sources of heterogeneity using subgroup analyses, but the observed effects could not always be adequately explained, or were unreliable due to the small number of included studies. The authors also highlighted a number of other potential concerns about the data, including different outcome measures and definitions. In summary, the findings of the review may not be reliable due to concerns about the analyses and the lack of any assessment of study validity.

Implications of the review for practice and research
Practice: The authors stated that questions still remained to be answered before broader clinical recommendations could be made regarding the use of telephone psychotherapy in practice.

Research: The authors stated that randomised controlled trials are required to compare telephone-administered psychotherapy with face-to-face psychotherapy for the reduction of depression and treatment attrition. Such trials should adequately distinguish between attrition at different stages of the trial, including prior to treatment and during treatment. In addition trials are urgently required to assess in which specific populations telephone-administered psychotherapy is most effective and in which populations it is contraindicated.

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