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## Telephone-delivered cognitive behavioural therapy: a systematic review and meta-analysis

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### CRD summary

The authors concluded that their findings supported the use of telephone-delivered cognitive behavioural therapy as a tool for improving health in people with chronic illness. This reflects the evidence presented, but given variability of the studies and their poor quality, the reliability of the conclusion is uncertain.

### Authors' objectives

To evaluate the effect of telephone-delivered cognitive behavioural therapy on the physical health of people with chronic illness.

### Searching

MEDLINE, EMBASE and PsycINFO were searched to March 2010 for articles published in English. Search terms were reported. Reference lists of retrieved articles were also searched for relevant studies.

### Study selection

Eligible randomised controlled trials (RCTs) and quasi-randomised controlled trials compared telephone-delivered cognitive behavioural therapy with a different intensity of cognitive behavioural therapy, other therapy or routine care for improving physical health in patients (aged at least 18 years old) with chronic illnesses. Studies of telephone delivered cognitive behavioural therapy in hospital or residential settings were excluded. Outcomes of interest were general or illness-specific physical health outcomes.

Most of the interventions in the included studies were compared with routine care. Other studies used symptom monitoring or telephone supportive emotion-focused therapy as a comparison group. The number of sessions ranged from six to 16. Duration of sessions in most trials was 30 minutes. Follow-up ranged from two to six months. Outcomes were measured by a variety of self-report tools. All the studies delivered manualised cognitive behavioural therapy using a variety of components. Most studies used specialist therapists. Chronic illnesses of the participants included systemic lupus erythematosus, heart disease, end stage respiratory disease, rheumatoid arthritis or osteoarthritis, multiple sclerosis and breast cancer. The mean age of participants range from 45 to 61 years and 84% were women.

The authors did not state how many reviewers selected studies for inclusion.

### Assessment of study quality

Methodological quality was assessed using the Cochrane risk of bias assessment including: method of randomisation, allocation concealment, blinding, incomplete outcome data and selective reporting.

It appears that two reviewers conducted the quality assessment.

### Data extraction

Data on the mean difference for each outcome were extracted and used to calculate the effect size using Cohen's *d* with 95% confidence intervals (CIs). Study authors were contacted for additional information. The authors did not state how many reviewers extracted data.

### Methods of synthesis

Studies were pooled in a meta-analysis, weighted by sample size. Subgroup analyses were conducted to compare treatment effect sizes in sub-samples including the amount of therapist contact, cognitive behavioural therapy focus and the degree to which illness was immediately life-threatening. Statistical heterogeneity was conducted using  $I^2$ , where 25% represented low, 50% medium and 75% high heterogeneity. Rosenthal's Fail-Safe *N* was calculated to assess publication bias.

### Results of the review

Eight RCTs (text reported 1,093 patients, table reported 1,369; range 58 to 405) were included in the review. One RCT met all quality criteria and was considered to be at low risk of bias. Two studies reported adequate methods of randomisation and allocation concealment. Six studies reported adequate blinding. Five studies adequately addressed incomplete outcome data. Seven studies were considered to be free of selective reporting. The attrition rate ranged from 5.2 to 21%.

Overall, telephone-delivered cognitive behavioural therapy significantly improved physical health in patients with chronic illnesses ( $d=0.225$ , 95% CI 0.105 to 0.344, eight RCTs). There was high statistical heterogeneity ( $I^2=78\%$ ).

Subgroup analysis found that studies that included less than five hours of therapist contact had a greater impact on health outcomes than those with more than five hours therapist contact. Moderator analysis found no significant differences between interventions focused mainly on emotions and those which focused mainly on physical illness. There was no significant effect of treatment for studies that aimed to improve immediately life-threatening illnesses. However for studies focusing on less serious illnesses, the effect remained significant ( $d=0.346$ , 95% CI 0.172 to 0.520).

Analysis of publication bias reported that 36 unpublished, non-significant studies of the effect of the intervention on physical health would be needed to make the overall result non-significant.

### **Authors' conclusions**

The findings supported the use of telephone-delivered cognitive behavioural therapy as a tool to improve health in people with chronic illness.

### **CRD commentary**

The review question and inclusion criteria were broadly defined. Several relevant sources were searched although limitation to inclusion of English only studies means that some studies may have been missed. Quality assessment was conducted using appropriate criteria and results for individual studies were reported. It appears that appropriate methods to reduce reviewer error and bias were used for quality assessment, but it was unclear whether similar methods were used for the selection of studies and data extraction. The authors did not report the statistical model used for the meta-analysis and given the high degree of statistical heterogeneity (78%), combining the studies in this way may not have been appropriate. There were also differences between studies in terms of intervention components, outcome measures and illnesses of participants. However some efforts were made to explain heterogeneity using subgroup analysis, although the authors rightly note that this was limited by the small number of studies with small sample sizes.

The authors' conclusions reflect the evidence presented, however given the variability between studies and their poor quality, the reliability of the conclusions was uncertain.

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

**Practice:** The authors did not state any implications for practice.

**Research:** The authors stated that further research was needed to understand the mechanisms involved in treatment with telephone delivered cognitive behavioural therapy. Future trials need to be adequately powered and robustly designed, using objective health measures (including psychological outcomes) and to consider the effect on a wider range of chronic illnesses. There was also a requirement to evaluate the cost-effectiveness of the intervention.

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This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.