A systematic review of telephone-based interventions for mental disorders

Leach L S, Christensen H

CRD summary
This review concluded that telephone-based interventions may be effective for patients with mental disorders, but further rigorous research is required. The authors' conclusion reflects the limited evidence available, but the absence of a fully reported review process and quality assessment of the included studies mean that the overall reliability of the review is unclear.

Authors' objectives
To evaluate the effectiveness of telephone-based interventions for patients with mental illness.

Searching
PubMed, PsycINFO and Google Scholar were searched for studies published between 1995 and February 2005; the search terms were reported. In addition, reference lists were screened.

Study selection
Study designs of evaluations included in the review
Randomised controlled trials (RCTs), convenience sample studies and pre-test post-test studies were eligible for inclusion in the review; case studies were excluded. The included studies were RCTs, convenience sample studies and longitudinal studies.

Specific interventions included in the review
Studies that compared telephone-based interventions with a control or face-to-face interventions were eligible for inclusion. Studies that compared two telephone-based interventions without a suitable control group were excluded, as were studies that evaluated group therapy, teletherapy with visual aids, telephone-accessed computer systems or assessment tools delivered using the telephone. The included studies evaluated a variety of telephone-based interventions, including cognitive-behavioural therapy, problem-solving, behaviour monitoring and change, psycho-education, exposure therapy, and identification of goals and stressors. Some of the included studies also used antidepressant medication.

Participants included in the review
Studies of patients with mental illness were eligible for inclusion. Studies that focused on specific populations were excluded. The included studies were in patients with depression, anxiety disorders (including obsessive-compulsive disorder (OCD) and panic disorder), eating disorders (including binge eating disorders and bulimia nervosa), substance-use disorders and schizophrenia.

Outcomes assessed in the review
Studies that assessed outcomes not specifically related to mental illness were excluded. The included studies assessed a variety of measures including the Hamilton Rating Scale (HRS), Beck Depression Inventory (BDI), Hopkins Symptom Checklist Depression Scale (SCL), Centre for Epidemiologic Depression Scale, OCD symptom scores, Fear Questionnaire ratings, Anxiety Sensitivity Index, Eating Disorder Inventory, Body Mass Index, binge eating, vomiting, laxative abuse, remission behaviour, abstinence, re-hospitalisation, duration of readmission and community survival. Self-reported measures were also included.

How were decisions on the relevance of primary studies made?
The authors did not state how the papers were selected for the review, or how many reviewers performed the selection.

Assessment of study quality
The authors did not state that they assessed validity. However, they did report the numbers of patients at baseline and end point.

**Data extraction**
The authors did not state how the data were extracted for the review, or how many reviewers performed the data extraction. For each study, the statistical significance of the treatment difference or treatment effect was reported in the text.

**Methods of synthesis**
How were the studies combined?
The studies were grouped by medical condition of the participants and combined in a narrative.

How were differences between studies investigated?
Studies that used cointerventions with antidepressant medication were discussed separately. Other differences were apparent from the text or tables.

**Results of the review**
Fourteen studies (n=1,814) were included: 9 RCTs (n=1,620), 2 convenience sample studies (n=155) and 3 longitudinal studies (n=39). The sample sizes ranged from 4 to 600.

Generally, only statistically significant results are highlighted in this abstract. Other results were also presented in the paper.

Depression (6 studies).

One of 2 RCTs in patients with mild depression reported that BDI scores post-intervention were significantly lower in the intervention group than in the control group (p<0.02).

The other 4 studies evaluated telephone interventions used in combination with antidepressants. The 3 RCTs reported that patients receiving the telephone intervention had significantly lower SCL scores (p=0.02) and greater levels of improvement (1 study), significantly greater increases on the HRS (p=0.01; 1 study), and significantly improved scores on the Centre for Epidemiologic Depression Scale (p=0.04; 1 study) than control groups.

Anxiety disorders (3 studies).

Two studies (1 longitudinal study and 1 convenience sample) were in patients with OCD. One study reported significant reductions in most OCD measures from baseline. The other study reported improvement in 3 of the 4 patients (no significance levels given). One RCT reported significant improvements (p<0.01) in most outcome measures in patients with panic disorder who received the telephone compared with the control intervention.

Eating disorders (3 studies).

Two studies (1 RCT and 1 longitudinal study) were in patients with bulimia nervosa. One longitudinal study reported a significant decrease from baseline in binge eating (p<0.01), vomiting (p<0.02) and laxative abuse (p=0.02) following a series of telephone counselling sessions. One RCT reported significant improvements in patients who received face-to-face interventions compared with a telephone intervention, but found that both these treatment groups were significantly more likely to show ‘full behavioural remission’ than a control group (p<0.05).

One longitudinal study in patients with binge eating reported a significant reduction from baseline in Eating Disorder Examination scores (p=0.01) and the Brief Symptom Inventory (p=0.04) in the telephone intervention group versus control.

Substance-use disorders (1 study).
For the alcohol abuse subgroup in the RCT, the telephone intervention was associated with significantly greater improvements in alcohol use measures (p=0.03) and some biological markers of heavy alcohol use compared with the 12-step programme and a relapse prevention programme.

**Authors’ conclusions**  
Telephone-based interventions may be effective, but there was insufficient evidence to draw firm conclusions and further research is required.

**CRD commentary**  
The review addressed a clear question that was defined in terms of the participants, intervention, outcomes and study design. Relevant literature sources were searched but no attempts to minimise either publication or language bias were reported. Since study validity was not assessed the results from these studies and any synthesis might not be reliable. Limited details on the demographics of participants in the included studies were presented, thus it may be difficult to generalise the review findings. The methods used to select the studies and extract the data were not described, so it is not known whether any efforts were made to reduce reviewer error and bias.

In view of the differences between the studies, a narrative synthesis with studies grouped by medical condition was appropriate. However, attention was not drawn to higher sources of evidence. There were limitations to this review, for example the lack of reporting of review methods and absence of a quality assessment when reporting results. Although the authors’ conclusions reflect the limited evidence from a diversity of included studies, the overall reliability of the review is unclear.

**Implications of the review for practice and research**  
Practice: The authors did not state any implications for practice.

Research: The authors stated that additional large RCTs are required to provide governments and telephone counselling agencies with evidence about the efficacy of telephone-based interventions.

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