Telemedicine for depression: a systematic review

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CRD summary
This review concluded that there was insufficient evidence regarding the effectiveness of information and communication technology in the treatment of depression. The authors suggested some strong hypotheses on the effectiveness of videoconference-based treatment and self-help internet programs. Although the conclusion regarding insufficient evidence appears appropriate, given the conflicting findings the authors' suggested hypotheses should be interpreted with some caution.

Authors' objectives
To evaluate the effectiveness of information and communication technology (ICT) in the treatment of depression.

Searching
Published trials were identified through a search of MEDLINE, EMBASE, PsycINFO, CRD and The Cochrane Library Controlled Trial Registry databases from 1997 to May 2008. The authors performed a manual search of identified meta-analysis and systematic reviews. Search terms were reported.

Study selection
Randomised controlled trials (RCTs) that assessed use of ICT interventions for treatment of patients with depression were eligible for inclusion. Eligible studies were required to include at least 10 patients in each comparison group and present data on clinical outcomes, use of resources or satisfaction. Studies that used phone-based or preventive interventions were excluded.

Included studies were conducted in Canada, USA, Australia, Sweden and UK between 2001 and 2007. Study durations ranged from six weeks to six months. Patients had different types and stages of depression. Where reported, ages ranged from eight to 65 years. Interventions included cognitive-behavioural therapy (CBT), self-help programmes with minimal therapist support, telephone, postcard or online group discussions, delivered using videoconference, the Internet and integrated computer-telephone systems. Control groups received the following treatments: face-to-face therapy, usual care, minimal telephone support or waiting list with web-based group discussions.

It appears that two reviewers independently screened studies for inclusion. Discrepancies were resolved by consensus.

Assessment of study quality
Methodological quality was assessed by two independent reviewers using the five-point Jadad scale of randomisation, blinding and intention-to-treat analysis. Disagreements were resolved by consensus.

Data extraction
Two independent reviewers extracted data. Disagreements were resolved by consensus.

Methods of synthesis
The studies were combined using a narrative synthesis supported by tables.

Results of the review
Ten RCTs (n=1,951) were included in the review. Overall quality was average: five RCTs scored 3 or more and five RCTs scored less than 3. Follow-up ranged from eight weeks to 18 months.

In the nine RCTs that evaluated symptoms, four showed statistically significant improvement in the intervention groups (p<0.05) and five showed no differences. In the four RCTs that evaluated quality of life, all four showed no significant differences compared to control groups. Four RCTs assessed treatment adherence; most reported no statistically significant differences between intervention and control groups. Five RCTs evaluated patient satisfaction and found no differences between groups. Three RCTs evaluated use of resources and found no significant differences...
Authors’ conclusions
There was insufficient evidence about the effectiveness of ICT use in the management of depression and more research was needed to further evaluate efficacy. There was a strong hypothesis that videoconference-based treatment obtains the same results as face-to-face therapy and that self-help internet programs could improve symptoms when traditional care was not available.

CRD commentary
This review addressed a clear question supported by appropriate inclusion criteria. Relevant databases were searched. Language restrictions were unclear. There appeared to be no attempts to identify unpublished data. Publication bias was not considered in the report.

Although not clearly stated, it appeared that the authors used suitable methods to reduce reviewer error and bias during each stage of the review. There were some discrepancies in the report: in the text, the authors reported that four trials showed improved symptoms in intervention groups and in the table reported that five trials showed improvement. A typing error in the reporting of quality of life made it appear that all trials reported increased quality of life, but the table showed no differences between groups in any included trials for this outcome. The authors concluded that patient satisfaction was positive because there were no differences between groups; there was no indication that equivalence was assessed or that control groups were satisfied. The authors used appropriate criteria to assess study validity and the included studies were reported to be of average quality. Given the differences in study methodologies and limited data provided on patient characteristics and, therefore, potential for heterogeneity, a narrative synthesis was appropriate.

The authors recognised some of the methodological difficulties with the review, specifically the lack of reporting of control groups in the included studies. The authors’ conclusions regarding videoconference-based therapy obtaining the same results as face-to-face therapy did not appear to be based on the evidence reported and the conclusion that internet programs could improve symptoms did not seem justified given the mixed results for this finding.

Implications of the review for practice and research
Practice: The authors stated that where traditional care was not possible, telemedicine could be used.

Research: The authors stated that rigorous studies were needed to perform complete economic evaluations, further describe the interventions and establish a sufficient follow-up period to verify treatment results over time.

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