

A systematic review and economic evaluation of computerised cognitive behaviour therapy for depression and anxiety

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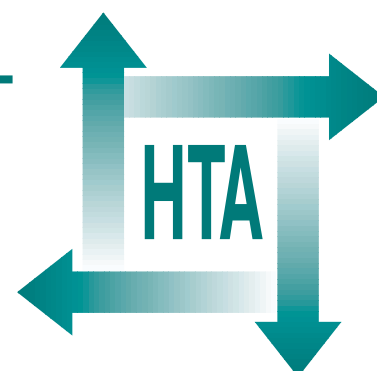
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Executive summary

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Executive summary

Background

Most patients suffering from depression, anxiety and phobias are treated within the primary care setting, although many patients do not seek help or their condition is not recognised by healthcare professionals. Medication is usually the first treatment offered but this is often associated with side-effects. There is substantial evidence to support the use of cognitive behaviour therapy (CBT) in the treatment of these disorders. However, access is limited due to too few therapists, expense, waiting lists, and patients' reluctance to enter therapy. Computerised cognitive behaviour therapy (CCBT) is a self-help option that offers patients the potential benefits of CBT with less therapist involvement.

Objective

The overall aim of the review was to assess the clinical effectiveness of CCBT for treating anxiety, depression and phobias and to compare the cost-effectiveness of CCBT with CBT by conventional methods and with treatment as usual (TAU).

Methods

A systematic review of the literature was performed to identify all studies describing trials of CCBT either delivered alone or as part of a package and either via a computer interface or over the telephone with a computer-led response. Databases were searched from 1966 to September 2001.

The cost-effectiveness review was divided into two parts: the economic evidence on CCBT was reviewed, and a modelling exercise was undertaken with the aim of estimating the cost per year of providing CCBT and the number of patients that could be treated. An attempt was also made to estimate the effect of CCBT in terms of quality-adjusted life-years (QALYs).

Results

Number and quality of studies

Sixteen studies met the inclusion criteria. Of these, 11 were randomised controlled trials (RCTs) and five were pilot studies or cohort studies. The quality of the studies ranged from poor to moderate. An additional three studies were identified that dealt with the use of CCBT as a treatment adjunct for therapist-led CBT (TCBT).

Thirteen papers were identified for the cost-effectiveness review although none dealt specifically with CCBT. Four sponsor submissions were used in the cost-effectiveness analysis including Ultrasis (Beating the Blues), Leeds Innovations (Calipso), University of Glasgow (Stresspac) and ST Solutions (FearFighter and Cope).

Clinical effectiveness

The results can be summarised as follows.

- There is some evidence of poor-to-moderate quality that CCBT is as effective as TCBT in clinically depressed, anxious or phobic outpatient and primary care populations.
- There is limited evidence of poor-to-moderate quality that CCBT is more effective than TAU in clinically depressed, anxious or phobic outpatient and primary care populations.
- CCBT may be as effective or less effective than bibliotherapy. There is no evidence that CCBT is more effective than bibliotherapy.
- In studies reporting accurate estimates of therapist time, CCBT appears to reduce therapist time compared with TCBT and is therefore of use where access to TCBT is limited.
- CCBT may form a useful component of a stepped-care programme, being one of the options offered to patients as a first-line treatment approach.
- There is evidence to support the effectiveness of Beating the Blues and FearFighter.

Cost-effectiveness

No studies performed an economic analysis of CCBT. Therefore the only available economic evidence was provided by the four sponsor submissions. These were critically reviewed and data from them used in a modelling exercise.

- CCBT using Stresspac was found to cost more, but was no better in terms of patient outcomes than TAU.
- The cost per patient of Cope was less than the corresponding costs for CBT and drug therapy.
- CCBT using FearFighter was stated to be less costly than CBT and drug therapy.
- There was insufficient data in the Calipso submission to make any judgement regarding the efficiency of Calipso relative to alternative treatment options.
- The results of the economic analysis of CCBT using Beating the Blues indicated that compared with TAU, Beating the Blues is a cost-effective strategy for treating patients with anxiety and depression. The economic analysis presented in this submission is the most rigorous of all the submissions.

Modelling

Under baseline assumptions, the cost in the first year of implementing Beating the Blues with an assistant psychologist is £21,691. If a practice nurse is used, the cost is £25,192. The corresponding costs for Stresspac and FearFighter are £19,902 and £22,574, respectively.

Under baseline assumptions, Beating the Blues with an assistant psychologist was estimated to cost £275 million in England and £13 million in Wales. If a practice nurse is used, the corresponding costs were £237 million in England and £11 million in Wales. The costs for Stresspac were estimated to be £206 million in England and £10 million in Wales.

In view of the data deficiencies and the large number of assumptions made, all the model estimates should be treated with caution.

Cost per QALY

Based on a number of assumptions, one set of data suggest that the incremental cost per QALY gained of Beating the Blues over TAU lies between £1209.68 and £7692.30. If the data from another data set are used, the corresponding range lies between £3000 and £6667 per QALY gained. It should be stated once again, however, that these estimates are crude and should be treated with caution.

Conclusions

There is limited evidence of poor-to-moderate quality that CCBT may be effective in the treatment of depression, anxiety and phobias. The evidence for CCBT is uncertain as the studies varied

widely in setting, patient populations, comparators and outcome measures. Further research is needed in order to answer the many questions surrounding the design and implementation of CCBT programmes.

Recommendations for further research

- Studies are needed to determine the level of therapist involvement needed to produce optimal outcomes for patients using CCBT programmes.
- Studies need to be undertaken within the general practice setting.
- Efforts should be made to include patients with co-morbidities routinely treated within general practitioner care.
- The position of CCBT within a stepped-care programme needs to be identified as well as its relationship to other efforts to increase access to CBT and psychological therapies.
- Appropriate comparison groups must be included in studies, such as bibliotherapy and other self-help approaches to treatment that reduce therapist time.

Other important research issues include the inclusion of patients from a variety of socio-economic and ethnic backgrounds, different age groups and both males and females. Co-morbidity and medication need to be taken into account in trial design. Also further research is needed to ensure patients who cannot currently access services because they are housebound may benefit from CCBT.

Study design issues include the need for independent researchers, the need for good quality RCTs of adequate power using appropriate comparison groups and well-validated outcome measures.

Components of CCBT packages that warrant further research are the type and amount of CBT material to incorporate, length and frequency of sessions, amount of homework and the appropriate software and computer interface necessary for most effective usage. Readability and legibility of CCBT materials must also be taken into account.

Publication

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NHS R&D HTA Programme

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