Efficacy of cognitive behavioral therapy for anxiety disorders in older people: a meta-analysis and meta-regression of randomized controlled trials

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CRD summary
The authors concluded that review findings confirmed the effectiveness of cognitive behavioural therapy for anxiety disorders in older people. The authors’ conclusions are supported by the evidence presented, but the low quality and small number of studies contributing to the analyses makes the reliability of the conclusions uncertain.

Authors’ objectives
To compare the effectiveness of cognitive behavioural therapy (cognitive behavioural therapy) with that of active and non-active control conditions for anxiety disorders in older people.

Searching
MEDLINE, Cochrane Central Register of Controlled Trials (CENTRAL), Web of Science and PsycINFO were searched up to November 2010. Search terms were reported. Key journals and reference lists of relevant meta-analyses and reviews were handsearched for additional studies.

Study selection
Randomised controlled trials that compared cognitive behavioural therapy to an active control (defined as other treatment) or a non-active control (defined as no social support or attention placebo or other treatment) were eligible for inclusion. Studies had to enrol participants at least 55 years old with a diagnosis of panic disorder, generalised anxiety disorder, agoraphobia, phobia, post-traumatic stress disorder, obsessive-compulsive disorder or anxiety disorder not otherwise specified. Outcome measures were anxiety and depression measures at three, six and 12 month follow-up.

Included studies were conducted in the United States and Europe in community outpatient clinics. The mean age of participants was 68.2 years. The most common anxiety disorder examined was generalised anxiety disorder. The control condition was active in six studies. Most studies included components of cognitive therapy, psycho education, relaxation training and graded exposure. Most interventions were delivered in individual format over an average of 12 sessions. Problem solving training, worry behaviour prevention, sleep hygiene and behavioural activation were included in fewer studies. Various potential confounding factors were identified by the authors (reported in the paper). The most frequently used anxiety and depression outcome measures were the Penn State Worry Questionnaire and the Beck Depression Inventory.

Two reviewers independently assessed studies for inclusion; disagreements were resolved through discussion.

Assessment of study quality
Study quality was assessed with the Cochrane Risk of Bias Tool. Key criteria assessed included: sequence generation, allocation concealment, blinding, incomplete outcome data and selective outcome reporting.

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Data extraction
Means and standard deviations (or standard errors) for each anxiety and depression outcome measure in each condition at each time point were extracted to calculate between-group effect sizes. Authors were contacted for further data where necessary.

The authors did not state how many reviewers extracted data.

Methods of synthesis
Pooled effect sizes and 95% confidence intervals were calculated using random-effects meta-analysis. Heterogeneity was assessed using the Q test and I² statistic. Meta-regression analysis was carried out to explore influences on
intervention effects. Publication bias was assessed using funnel plots and Egger regression test.

**Results of the review**

Twelve studies were included (658 participants). Quality criteria adequately addressed by most studies were incomplete outcome data, selective outcome reporting and blinding of outcome assessors. Sequence generation and allocation concealment were the most inadequately addressed criteria.

At immediate post-intervention follow-up cognitive behavioural therapy was significantly and modestly more effective at reducing anxiety symptoms than non-active control (treatment as usual or being on a waiting list; seven studies). Between-group difference in effect size with active control was not statistically significant, and the effect size was small. There was no significant heterogeneity at six months, but not three or 12 month follow-up, cognitive behavioural therapy was significantly more effective at reducing anxiety symptoms than an active control (four studies), but the effect size was small. There was no significant heterogeneity at six month follow-up; moderate heterogeneity was found at 12-month follow-up.

Cognitive behavioural therapy was significantly and modestly more effective at reducing depression symptoms than treatment as usual or being on a waiting list at immediate post-intervention follow-up alone (six studies); but there were no significant differences with an active control, or any time points beyond.

No evidence of publication bias was found. Results of the meta-regression analysis were reported.

**Authors' conclusions**

The findings confirmed the effectiveness of cognitive behavioural therapy for anxiety disorders in older people.

**CRD commentary**

The review inclusion and exclusion criteria were clearly defined. Major electronic databases were searched but it was unclear whether grey literature sources were searched, so some relevant papers may have been missed. Study selection and quality assessment were carried out in duplicate which helped minimise reviewer error and bias, but it was not clear whether similar processes were used in data extraction. Study quality was assessed using appropriate criteria; the risk of bias was considered high in most studies. Statistical methods used to assess heterogeneity, and combine study results appeared appropriate.

The authors' conclusions are supported by the evidence presented, but the low quality and small number of studies contributing to the analyses makes the reliability of the conclusions uncertain.

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

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

**Research:** The authors stated that the small effect sizes in favour of cognitive behavioural therapy over an active control condition illustrated the need to investigate other treatment approaches that could used to substitute or augment cognitive behavioural therapy to increase the effectiveness of treatment of anxiety disorders in older people. They also stated that further randomised controlled trials were needed to investigate why cognitive behavioural therapy for anxiety disorders may be less effective in older than working-age people at immediate post-intervention follow-up.

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**Bibliographic details**

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.