Cognitive behavioural therapy for anxiety disorders in later life (Protocol)

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Cognitive behavioural therapy for anxiety disorders in later life

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ABSTRACT

This is the protocol for a review and there is no abstract. The objectives are as follows:

1. To assess the efficacy and feasibility of CBT (CT, BT, CBT and third wave CBT interventions) for different anxiety disorders in older adults aged 55 years or over compared with minimal management

2. To assess the efficacy and feasibility of CBT (CT, BT, CBT and third wave CBT interventions) for different anxiety disorders in older adults aged 55 years or over compared with other psychological therapies

3. To conduct a narrative review to additionally describe trials omitted from the quantitative analysis due to missing data.
BACKGROUND

Description of the condition

Patients with anxiety disorders often report experiencing tension or restlessness, and they exhibit signs of autonomic hyperactivity such as palpitations, sweating, and trembling. Many report feeling out of control or losing control of their bodies, with symptoms of fear, anxiety, and dread. Anxiety disorders are common, with prevalence rates estimated between 10 and 15% in the general population. However, the exact prevalence in older adults is less clear due to underdiagnosis and undertreatment. The average duration between anxiety symptom onset and first treatment contact has been shown to be between 9 and 23 years, indicating a delay in seeking help. The prevalence of anxiety disorders among older adults living in the community is estimated at 10-15%, with only 3.8% being prescribed an antidepressant drug. The majority of patients suffering from anxiety disorders resist the use of antidepressants based on fear of dependence, prior negative experiences, or a desire to avoid medication altogether.

How the intervention might work

Cognitive-behavioural therapy (CBT) is generally considered the most effective psychotherapy for anxiety disorders in later life. It involves the use of techniques such as exposure therapy, cognitive restructuring, and stress management. CBT identifies habitual ways in which patients distort information, and it teaches them to challenge and reframe their dysfunctional thoughts and beliefs. The controlled exposures are predictable and the patient is taught to respond to their dysfunctional thoughts and beliefs, using a variety of techniques to change thinking, mood, and behavior. Behavioural interventions help the patient develop new and adaptive ways of behaving. Exposure based treatment utilises gradual, systematic, repeated exposure to the feared object or situation to desensitise patients with anxiety disorders to the feared stimulus. The controlled exposures are predictable and the patient is taught a variety of adaptive coping strategies.

Why it is important to do this review

CBT is generally considered the most effective psychotherapy for anxiety disorders. The efficacy of CBT for anxiety disorders in young and middle-aged adults is supported by a variety of meta-analyses. However, whether these results extend to older adults remains unclear. This review aims to provide up-to-date information on the effectiveness of CBT for anxiety disorders in later life and to identify any gaps in the current evidence base.
O B J E C T I V E S

1. To assess the efficacy and feasibility of CBT (CT, BT, CBT and third wave CBT interventions) for different anxiety disorders in older adults aged 55 years or over compared with minimal management

2. To assess the efficacy and feasibility of CBT (CT, BT, CBT and third wave CBT interventions) for different anxiety disorders in older adults aged 55 years or over compared with other psychological therapies

3. To conduct a narrative review to additionally describe trials omitted from the quantitative analysis due to missing data.

M E T H O D S

Criteria for considering studies for this review

Types of studies

All randomised controlled trials (RCTs) will be included. In the case of cross-over trials (a rare feature within this field of research), only the first randomisation period will be included in the review. Studies using a quasi-randomised design will be excluded. Cluster RCTs, in which centres or therapists were randomised to intervention or control groups will be included, provided that the specific aim of the study was to examine the effect of the intervention.

Types of interventions

Experimental intervention
Cognitive therapy (CT) is defined as cognitive restructuring of irrational and maladaptive anxiety beliefs. Behavioural therapy (BT) is defined as some form of exposure and/or relaxation exercises. Cognitive-behavioural therapy (CBT) is defined as delivering a combination of both CT and BT. In studies where behavioural experiments are included, the therapy will be considered to be CBT, because behavioural experiments are exercises of new behaviour (BT) designed to challenge irrational or maladaptive beliefs (CT). Studies including ‘third wave’ CBT interventions (e.g. mindfulness, acceptance and commitment therapy) will also be included. A minimum number of six therapy sessions has to be delivered, either in an individual or group format.

**Comparator interventions**

Non-CBT psychological therapies and minimal management will be included as control interventions. Non-CBT psychological therapies include non-directive (supportive) therapies, psychodynamic therapy and interpersonal psychotherapy. Minimal management (also sometimes described in trials as standard care, treatment as usual or waiting list), is defined as being elements of clinic attendance, investigation, reassurance, and simple advice, without explicit psychological therapy, and also may include naturalistic prescribing of medication and/or other interventions.

**Combination therapy**

CBT in combination with pharmacological treatment will be excluded, as its superior effects over the monotherapies (van Balkom 1997; Bakker 1998) have been challenged by recent meta-analyses (Furukawa 2006; Mitte 2005a; Mitte 2005b).

**Main comparisons**

1. CBT, stratified as CBT, BT, CT and third wave CBT interventions versus minimal management
2. CBT, stratified as CBT, BT, CT and third wave CBT interventions versus all non-CBT psychological therapies

### Types of outcome measures

**Primary outcomes**

The principal outcome used in this review will be anxiety, measured as follows:

1. Reduction in anxiety severity (continuous), measured by a well-validated, observer rated instrument like the Hamilton Rating Scale for Anxiety (Hamilton 1959), or if not available, a well validated self-report instrument measuring general anxiety like the Beck Anxiety Inventory (Beck 1988a). Validated disorder-specific instruments for obsessive-compulsive disorder or posttraumatic stress disorder will be used.

2. Clinical recovery or improvement (dichotomous), based on diagnostic interview or defined cut-off on validated scales, as specified by trial authors. In case the Clinical Global Impression scale [change item] (CGI-C) is used, responders are defined as having a change score of 1 = ‘very much’ or 2 = ‘much’ improved (Guy 1976).

**Secondary outcomes**

The following secondary outcome measures will included in the review:

1. Worrying, assessed continuously by well-validated, self-report questionnaires, like the Penn State Worrying Questionnaire (Meyer 1990; van Rijsoort 1999).
2. Depression, assessed continuously by well-validated, self-report questionnaires, like the Beck Depression Inventory (Beck 1988b).
3. Anxiety, assessed continuously by well-validated observer- or self-report questionnaires, in studies of obsessive-compulsive disorder or posttraumatic stress disorder
4. Dropout rate will be included as a surrogate measure of feasibility of cognitive-behavioural therapy, in lieu of other more direct indicators of feasibility.
5. Occurrence of adverse events

### Search methods for identification of studies

A number of sources will be used to identify studies for possible inclusion in this review (see below). Studies will not be limited to any particular language.

**Electronic searches**

The Cochrane Collaboration Depression, Anxiety and Neurosis Controlled Trials Register (CCDANCTR) will be searched using the following terms: *CCDANCTR-Studies*

- Diagnosis = Anxiety or Anxious or Phobi* or Panic or Obsess* or Compulsi* or Post-Traumatic and Age-Group = Aged and Intervention = "Therapy"
- *CCDANCTR-References*  
  - Keyword = Anxiety or Anxious or “phobi*” or “Panic Disorder” or “Obsessive Compulsive Disorder” or “Post-Traumatic Stress Disorders and Free-text = Elder* or Geriatri* or Senil* or Older or “Old Age” or “Late Life” or “Aged, 80-And-Over”

A search of PubMed and of PsycINFO (which includes Dissertation Abstracts Internal, a database of unpublished dissertations) will also be conducted. The following keywords will be used “late-life”, “Elderly”, “Aged”, “Aged, 80 years and over”, “Old Age”, “Anxiety disorder”, “Anxiety”, “Panic”, “Agoraphobia”, “Phobia”, “Obsessive-compulsive”, “Posttraumatic”, “psychotherapy”, “cognitive therapy”, “behavior therapy”, “cognitive behavior therapy”. See Appendix 1 for the exact search strings that will be used in the different databases.

### Searching other resources

**Correspondence**
Experts in this field and principal authors who have published controlled trials in the field of late-life anxiety will be asked if they know of any study which meets the inclusion criteria of this review.

Reference list
Citation lists of potentially relevant papers obtained by these methods will be searched for further relevant trials, as will be the reference lists of those further relevant trials. In addition, the citation lists of relevant and recent systematic reviews were perused.

Data collection and analysis

Selection of studies
RCTs that have been identified will be independently assessed for inclusion by two review authors (RCOV & GJH), based on information included in the abstract and/or main body of the trial report. RCTs that both raters regard as satisfying the inclusion criteria specified in the “Criteria for selecting studies” section will be collated by the raters (see above). If the raters disagree, the final rating will be made by consensus, if necessary with the involvement of another member of the review group (AJLMvB). Non-congruence in selection of trials will be reported as percentage disagreement. Considerable care will be taken to exclude duplicate publications.

Data extraction and management
Spreadsheet forms will be designed for the purpose of recording descriptive information, summary statistics of the outcome measures, the quality scale ratings, and associated commentary. These data will then be exported to RevMan. Where information is missing, the reviewers will contact investigators by letter or email in an attempt to obtain it. The following data will be extracted from each trial by two review authors independently (RCOV & GJH):
1. Description of the trials, including primary researcher and year of publication.
2. Characteristics of the interventions, including the number of participants randomised to CBT-condition and control groups, therapy-characteristics, including the number of sessions provided, groups versus individual therapy, and components of the therapy (psycho-education, relaxation training, anxiety management, type(s) of exposure, cognitive techniques, and behavioural experiments), and finally the classification in CT, BT, CBT or third wave CBT interventions.
3. Characteristics of trial methodology, including the diagnostic and exclusion criteria employed, the screening instrument used, the inclusion of comorbidity, a minimal severity criterion, and the number of centres involved.
4. Characteristics of participants, including their gender distribution, mean age, and the duration of primary symptoms.
5. Outcome measures employed, and summary continuous (means and standard deviations) and dichotomous (number of responders) data. Additional information will be included, such as whether the data reflected the intent-to-treat (ITT) with either last observation carried forward (LOCF), or completer/observed cases (OC) sample, and the dropout rates of participants randomised to the experimental and control groups.

Assessment of risk of bias in included studies
Risk of bias will be assessed for each included study using the Cochrane Collaboration ‘risk of bias’ tool. The following six domains will be considered:
1. Sequence generation: Was the allocation sequence adequately generated?
2. Allocation concealment: Was allocation adequately concealed?
3. Blinding of participants, personnel and outcome assessors for each main outcome or class of outcomes: Was knowledge of the allocated intervention adequately prevented during the study?
4. Incomplete outcome data for each main outcome or class of outcomes: Were incomplete outcome data adequately addressed?
5. Selective outcome reporting: Are reports of the study free of suggestion of selective outcome reporting?
6. Other sources of bias: Was the study apparently free of other problems that could put it at a high risk of bias?
A description of what was reported to have happened in each study will be provided, and a judgement on the risk of bias will be made for each domain within and across studies, based on the following three categories:
A. Yes (low risk of bias)
B. Unclear
C. No (high risk of bias).
Two independent review authors (RCOV & GJH) will assess the risk of bias in included studies. Any disagreement will be discussed with a third review author (AJLMvB). Where necessary, the authors of the studies will be contacted for further information.

Measures of treatment effect
Dichotomous outcomes
These outcomes will be analysed by calculating a pooled relative risk (RR) for each comparison, with 95% confidence intervals. Where overall results are significant, the number-needed-to-treat (NNT) to produce one outcome will be calculated.
Continuous outcomes
Anticipating different measures across studies, data will be pooled by calculating the standardised mean difference (SMD), using 95% confidence intervals.

Unit of analysis issues
Dealing with missing data

Missing dichotomous data will be managed through intention to treat (ITT) analysis, in which it will be assumed that patients who dropped out after randomisation had a negative outcome. Best/worse case scenarios will also be calculated for the clinical response outcome, in which it will be assumed that dropouts in the active treatment group had positive outcomes and those in the control group had negative outcomes (best case scenario), and that dropouts in the active treatment group had negative outcomes and those in the control group had positive outcomes (worst case scenario), thus providing boundaries for the observed treatment effect.

Missing continuous data will either be analysed on an endpoint basis, including only participants with a final assessment, or analysed using last observation carried forward to the final assessment (LOCF) if LOCF data were reported by the trial authors. Where SDs are missing, attempts will be made to obtain these data through contacting trial authors. Where Sds are not available from trial authors, they will be calculated from t-values, confidence intervals or standard errors, where reported in articles (Deeks 1997a; Deeks 1997b). If these additional figures are not available or obtainable, the study data will not be included in the comparison of interest.

Assessment of heterogeneity

Statistical heterogeneity will be formally tested using the natural approximate chi-square test, which provides evidence of variation in effect estimates beyond that of chance. Since the chi-squared test has low power to assess heterogeneity where a small number of participants or trials are included, the p-value will be conservatively set at 0.1. Heterogeneity will also be tested using the I² statistic, which calculates the percentage of variability due to heterogeneity rather than chance, with I² values over 50% indicating strong heterogeneity (Higgins 2008).

Assessment of reporting biases

Where sufficient numbers of trials allow a meaningful presentation, funnel plots will be constructed to establish the potential influence of publication bias.

Data synthesis

Data will be entered into RevMan 5.0 software by two review authors (double data entry). A fixed effect model will be used in the first instance to combine data. If there is evidence of statistical heterogeneity, results will be recalculated using a random effects model, in order to obtain a more conservative estimate.

Subgroup analysis and investigation of heterogeneity

Multiple subgroup analyses will be performed, but interpreted with caution, due to the risk of false positive conclusions. If possible, the following subgroup analyses will be performed:
1. Separate anxiety disorders (category 1), stratified as generalised anxiety disorder, panic disorder and social phobia.
2. Minimal management control condition (waiting list versus other minimal management control conditions).
3. Other psychological therapy control conditions, stratified as psychodynamic, interpersonal and supportive therapies.
4. CBT versus third wave CBT interventions.
5. Group versus individual treatment delivery.
6. The age classification of participants (55-79 years versus 80 years and over).

Where there are sufficient studies, these subgroup analyses will also be used to examine potential sources of clinical heterogeneity.

Sensitivity analysis

Sensitivity analyses will also be undertaken to assess the degree to which the effect sizes depend on the assumptions made by the reviewers. Studies will be limited to those of higher quality as determined by risk of bias domains, including:
1. Allocation concealment.
2. Dropout rate lower than 20%.
3. Use of formal testing of fidelity to psychological therapy manual.
4. Use of blinded outcome assessors.

These sensitivity analyses will also be used to examine potential sources of methodological heterogeneity.

Acknowledgements

The authors are supported by Forum GGz Nijmegen, department for anxiety disorders "Overwaal" (Nijmegen, the Netherlands), the department of Psychiatry VU-MC/GGZ Buitenvest (Amsterdam, the Netherlands), the Radboud University Nijmegen, Department of Clinical Psychology (Nijmegen, the Netherlands), and the Radboud Univerisity Nijmegen Medical Centre, department of psychiatry (Nijmegen, the Netherlands).
REFERENCES

Additional references

APA 1980

APA 1987

APA 1994

Ayers 2007

Bakker 1998

Bandelow 2008

Bandura 1969

Bartz 2006

Beck 1988a

Beekman 2000

Brenes 2007

De Beurs 1999

Deeks 1997a

Deeks 1997b

Ettner 1997

Flint 2005

Furukawa 2006

Givens 2006

Gorgels 2001

Guy 1976

Hamilton 1959

Kessler 2005b

Korrelboom 2004

Kroenke 2007

Larkin 1992

Law 2003

Lenze 2005

Meyer 1990

Mitte 2005a

Mitte 2005b

Mohlman 2003

NICE 2007

Nordhus 2003

Pinquart 2007

Stanley 2003a

Stanley 2003b

van Balkom 1997

van Balkom 2000

van der Velde 2003

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van Hout 2004

van Rijsoort 1999

van Zelst 2006

Wang 2005

Ware 1992

Weinrieb 2005

Westen 2001

Wetherell 2003

Wetherell 2005a

Wetherell 2005b

Wright 2008

Yates 1970

Yuan 2006

* Indicates the major publication for the study

A P P E N D I C E S

Appendix 1. Search strategies
The following search strings will be used:
For the CCDANCTR-Studies database: Keyword="late-life" OR "Elderly" OR "Aged" OR "Old Age" AND Keyword="Anxiety" OR "Panic" OR "Agoraphobia" OR "Phobia" OR "Obsessive-compulsive" OR "Posttraumatic" AND Keyword= "psychological therapy" OR "psychotherapy" OR "cognitive therapy" OR "behaviour(u)ral therapy" OR "cognitive-behaviour(u)ral therapy" OR "CBT" For PubMed: Keyword="Aged [MESH]" OR "Aged, 80 years and over [MESH]" AND keyword= "Anxiety disorder [MESH]" AND Keyword= "behaviour therapy [MESH]".
For PsycINFO: Keyword="late-life" OR "Elderly" OR "Aged" OR "Old Age" AND Keyword="Anxiety disorder [Thesaurus]" AND Keyword= "cognitive therapy [Thesaurus]" or "psychotherapy [thesaurus]" OR "cognitive behavior therapy [Thesaurus]" OR "behavior therapy [Thesaurus]"

Cognitive behavioural therapy for anxiety disorders in later life (Protocol)
WHAT'S NEW

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HISTORY

Protocol first published: Issue 1, 2009

CONTRIBUTIONS OF AUTHORS

Dr R.C. Oude Voshaar and Dr. G.J. Hendriks have written the first draft in close collaboration. Dr. G. Keijsers and Prof. dr. A.J.L.M. van Balkom have commented on the draft for important intellectual content.

DECLARATIONS OF INTEREST

None of the authors do have competing interests. RCOV and GJH both have received an unconditional, educational grant from GlaxoSmithKline once. AJLMvB has received unconditional educational grants form Solvay pharmaceuticals and GlaxoSmithKline.

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