Best Evidence Summaries of Topics in Mental Healthcare

BEST *in* MH *clinical question-answering service*

Question

In older adults with anxiety disorders what is the most effective behavioural intervention in reducing anxiety symptoms? (with any additional comments on outcomes in relation to depression)

Clarification of question using PICO structure (PICTRO for diagnostic questions)

Patients: In older adults with anxiety disorders
Intervention: behavioural intervention
Comparator: Any other behavioural intervention
Outcome: reduction in symptoms of anxiety or depression

Clinical and research implications

One systematic review provided some indication of a small positive effect, for all of the active treatments assessed (cognitive behavioural therapy (CBT), relaxation therapy (RT), CBT+RT, and active control) upon anxiety and depression in older adults. However, there was no clear indication of any difference in effectiveness between the treatments assessed. As noted by the authors, limitations in the available evidence mean that their results should be interpreted with caution. Further, larger RCTs are needed, which directly compare the effectiveness of different types of behavioural intervention in this patient group.

What does the evidence say?

Number of included studies/reviews (number of participants)
One relevant systematic review was identified, which included 19 studies. The total number of participants appeared to be 522. The review aimed to compare the effectiveness of cognitive behavioural therapy (CBT) alone, relaxation therapy (RT) and CBT+RT for the treatment of anxiety disorders in older adults.

Main Findings
Eight studies compared behavioural therapies with active control ("supportive counselling or psychotherapy," "non-formal" training in CBT or relaxation training, group discussion, psychoeducation, time for quiet reflection, and weekly medication management), six compared behavioural therapies with wait list control, and five were uncontrolled studies.

Data were analysed separately for anxiety and depression outcomes.
Meta-analyses of controlled trials (study design unclear) showed no significant difference in the effects of CBT and active control (3 studies), or CBT+RT and active control (3studies), on anxiety or depression. RT had a small positive effect on anxiety compared to active control, 0.90 (95% CI: 0.44 to 1.44), but there was no significant difference in effect on depression (4 studies).

Pooled estimates of effect size (pre- to post-treatment, without comparator) were also reported for each treatment condition. All active treatments (CBT, RT, CBT+RT, and active control) had comparable, small positive effects on both anxiety and depression. There were no significant changes in anxiety or depression, pre- to post-treatment, in the wait list control group.

Two studies appeared to report three arm comparisons of CBT, RT and active control, but no outcomes data were reported for the CBT vs. RT comparison:
De Berry S. The effects of meditation-relaxation on anxiety and depression in a geriatric population. Psychother: Theory, Res Prac 1982;19:512–521.
Sallis JF, Lichstein KL, Clarkson AD, et al. Anxiety and depression management for the elderly. Int J Behav Geriatrics 1983;1:3–12.
Note: These studies were retrieved and were found to include no additional data.

Authors Conclusions
The authors conclude that their results indicate that behavioural treatments are effective for older adults with anxiety disorders and symptoms. However, they note the limitations of the literature and heterogeneity (participant characteristics, study design, control groups and outcome measures) of included studies and advise a cautious interpretation of their findings.

Reliability of conclusions/Strength of evidence
The systematic review methodology was generally poor, or poorly reported; searches were restricted to English language studies, no measures to minimise error and or bias in the review process were reported, the design of included studies was unclear and no assessment of their methodological quality was provided and, as noted by the authors, studies were heterogeneous interns of participant characteristics, study design, control groups and outcome measures. Although two of the included studies appeared to report direct comparisons between CB, RT and active control, no comparative data for CBT vs. RT were reported. Overall, this systematic review provides some limited indication of a small positive effect, for all of the active treatments assessed (CBT, RT, CBT+RT, and active control) upon anxiety and depression in older adults. However, there was no clear indication of any difference in effectiveness between the treatments assessed.

What do guidelines say?

No relevant guidelines were identified.

Date question received: 13/03/2012
Date searches conducted: 15/03/2012
Date answer completed: 16/04/2012

References

Systematic reviews

1. Thorp S, Ayers C, Nuevo R, Stoddard J, Sorrell J, Loebach Wetherall J. Meta-analysis Comparing Different Behavioral Treatments for Late-Life Anxiety. *Am J Geriatr Psychiatry*. 2009 February ; 17(2): 105–115. doi:10.1097/JGP.0b013e31818b3f7e.

Results

Systematic Reviews

Author (year)	Search Date	Inclusion criteria	Number of included studies	Summary of results	Risk of bias
Thorp (2009)	September 2007	*Studies* - We considered all potential articles that were published in English before September 2007. - The studies were required to provide a prospective test of a psychotherapeutic intervention for anxiety disorders or symptoms; *Participants* - The studies were required to report a mean subject age of 65 years or older or a lower limit on age no less than 55 years; - Include at least 5 subjects (due to methodological and power concerns about studies with smaller sample sizes); - Include only subjects who reported at least subjective anxiety symptoms *Intervention* - Investigate a treatment that was at least two sessions in length *Outcomes* - provide sufficient data for the calculation of effect sizes - report results from published and cited anxiety or depression measures. The systematic review does not include study-specific indices in analyses (e.g., "trips out of the house," "number of panic attacks") unless they were items from validated measures (e.g., generalized anxiety disorder severity from structured diagnostic interviews). measures of constructs other than anxiety or depression were not analysed (e.g., quality of life, headaches, heart rate).	19 trials	The review aimed to compare the efficacy of cognitive behavioural therapy (CBT), relaxation therapy (RT) and CBT+RT for the treatment of anxiety in older adults. CBT+RT was defined as treatments that include relaxation training as well as other techniques for cognitive and behavioural change. These techniques include traditional CBT strategies such as thought monitoring, cognitive restructuring, exposure methods and response prevention, behavioural activation, and problem solving coupled with traditional relaxation strategies such as progressive muscle relaxation (PMR), breathing exercises, meditation, and imagery. CBT was defined as above, but without explicit mention of the relaxation components. RT was defined as above, but without CBT components. Active control conditions included include "supportive counselling or psychotherapy," "non-formal" training in CBT or relaxation training, group discussion, psychoeducation, time for quiet reflection, and weekly medication management. Of the nineteen included studies, two were three arm studies comparing cognitive (CBT), (RT) and active control, two compared RT with active control, one compared CBT with active control, three compared CBT+RT with active control and six compared CBT+RT	Searches were restricted to English language studies, raising the possibility of language bias and potential exclusion of relevant studies. No assessment of the methodological quality of included studies was included. Therefore, the extent to which methodological flaws in the primary studies may have biased the review findings cannot be assessed. The review process was

				with wait list control. The remaining five studies were un-controlled (two CBT, two RT and one CBT+RT). The designs of the included studies were not clearly described; it was unclear whether any of the included studies were RCTs. The majority of the participants in included studies had generalised anxiety disorder (GAD), or panic disorder (PD). The mean age of participants ranged from 66 to 73 years, where reported. Effect sizes were calculated using the standardized mean difference (Hedges' g). Separate effect sizes were calculated fro anxiety and depression measures. Anxiety measures used by included studies were varied widely : trait anxiety; state anxiety; Beck Anxiety Inventory; Hamilton Rating Scale for Anxiety; Penn State Worry Questionnaire; Symptom Checklist-90 (phobic anxiety and obsessive compulsive sub-scales); Worry Domain Questionnaire Form for the Elderly; Fear Inventory; Hospital Anxiety and Depression Scale; Generalised Anxiety Questionnaire; Cognitive Anxiety Questionnaire; Worry Scale; Agrophobia Cognitions Questionnaire; Texas Panic-Related Phobia Scale. Depression measures used by included studies were more consistent : Beck Depression Inventory; Self-Rating Depression Scale; Geriatric depression Scale; Hamilton Rating Scale for Depression; Centre for Epidemiological Studies Depression Scale. Meta-analyses of controlled studies showed no significant difference in anxiety of depression measures between CBT and active control; mean g 0.00 (95% CI: -0.46 to 0.46) and 0.23 (95% CI: -0.22 to 0.69), respectively (3 studies). Similarly, there was no significant difference in anxiety of depression	poorly reported ands it was not clear whether any measures were taken to minimise error and/or bias, e.g. independent inclusion screening and data extraction by two reviewers. In addition to the comparisons of each intervention with active control, the meta-analyses included the calculation of uncontrolled (pre- versus post-treatment) effect sizes for CBT, RT, CBT+RT, active control and wait list/no treatment. These effect sizes were calculated by pooling data form uncontrolled studies and

				measures between CBT+RT and active control; mean g 0.33 (95% CI: -0.07 to 0.74) and 0.12 (95%CI: -0.29 to 0.52), respectively (3 studies). RT showed a small positive effect on anxiety measures compared to active control, mean g 0.90 (95% CI: 0.44 to 1.44), but there was no significant difference in depression measures, 0.23 (95% CI: -0.29 to 0.76), (4 studies). Two studies appeared to report three arm comparisons of CBT, RT and active control, but no outcomes data were reported for the CBT vs. RT comparison: De Berry S. The effects of meditation-relaxation on anxiety and depression in a geriatric population. Psychother: Theory, Res Prac 1982;19:512–521. Sallis JF, Lichstein KL, Clarkson AD, et al. Anxiety and depression management for the elderly. Int J Behav Geriatrics 1983;1:3–12. **Note: These studies were retrieved and were found to include no additional data.** Pooled estimates of effect size (pre- to post-treatment, without comparator) were also reported for each treatment condition. All active treatments had comparable, small positive effects on both anxiety and depression: CBT (5 studies) – anxiety mean g 1.18 (95% CI: 0.78 to 1.59), depression mean g 0.78 (95% CI: 0.38 to 1.17) CBT+RT (12 studies): anxiety mean g 0.86 (95% CI:0.63 to 1.08), depression mean g 0.77 (95% CI: 0.55 to 1.00). RT: anxiety (7 studies) mean g 0.91 (95% CI: 0.68 to 1.24), depression (3 studies) mean g 0.77 (95% CI: 0.26 to 1.27). Active control: anxiety (8 studies) mean g 0.50 (95% CI: 0.22 to 0.78), depression (7 studies) mean g 0.53 (95% CI: 0.24 to 0.82). Wait list/no treatment: anxiety (8 studies) mean g 0.05 (95% CI: -0.21 to 0.31), depression (7 studies) mean g 0.20 (95% CI: -0.08 to 0.49).	separate arms of RCTs. Two of the included studies appeared to report direct comparisons of CBT, RT and active control. However, these results were not reported and no meta-analysis of CBT vs. RT was reported.

RCTs – No relevant RCT's were identified.

Risk of Bias: SRs

Author (year)	Risk of Bias				
	Inclusion criteria	**Searches**	**Review Process**	**Quality assessment**	**Synthesis**
Thorp (2009)	☺	☹	☹	☹	☹

☺Low Risk ☹High Risk ? Unclear Risk

Search Details

Source	Search Strategy	Number of hits	Relevant evidence identified
SRs and Guidelines			
NICE	(anxiety OR Panic) AND (older adj people) OR (later adj life)) AND (CBT or behavioural)	23	0 – No NICE or SIGN guidelines were found that directly address this question.
DARE	1 (panic) IN DARE 74 2 (anxiety) IN DARE 937 3 (gad) IN DARE 17 4 (old*) IN DARE 1890 5 (later adj life) IN DARE 45 6 MeSH DESCRIPTOR Geriatric Psychiatry EXPLODE ALL TREES 7 7 (geriatric) IN DARE 255 8 MeSH DESCRIPTOR Anxiety EXPLODE ALL TREES 157 9 MeSH DESCRIPTOR Anxiety Disorders EXPLODE ALL TREES 297	136	1 – One systematic review was found in relation to this question. Any earlier systematic reviews with the same subject of study were excluded.

	10 #1 OR #2 OR #3 OR #8 OR #9 1126 11 #4 OR #5 OR #6 OR #7 2062 12 #10 AND #11 136		
Primary studies			
CENTRAL	#1 MeSH descriptor Anxiety Disorders explode all trees 4189 edit delete #2 (anxiety disorder*) 8041 edit delete #3 (#1 OR #2) 9559 edit delete #4 (behavioural intervention*) 8379 edit delete #5 (behaviour therap*) 17228 edit delete #6 MeSH descriptor Behavior Therapy explode all trees 8513 edit delete #7 (#4 OR #5 OR #6) 25052 edit delete #8 "older adult" 208 edit delete #9 MeSH descriptor Aged explode all trees 476 edit delete #10 MeSH descriptor Geriatrics explode all trees 174 edit delete #11 (#8 OR #9 OR #10) 837 edit delete #12 (#3 AND #7 AND #11) 27 edit delete 2007 - current -1	1	0
PsycINFO	11. PsycINFO; CLINICAL TRIALS/; 5881 results. 12. PsycINFO; random*.ti,ab; 106998 results. 13. PsycINFO; groups.ti,ab; 319972 results. 14. PsycINFO; (double adj3 blind).ti,ab; 15763 results. 15. PsycINFO; (single adj3 blind).ti,ab; 1167 results. 16. PsycINFO; EXPERIMENTAL DESIGN/; 8174 results. 17. PsycINFO; controlled.ti,ab; 66940 results. 18. PsycINFO; (clinical adj3 study).ti,ab; 6675 results. 19. PsycINFO; trial.ti,ab; 56320 results. 20. PsycINFO; "treatment outcome clinical trial".md; 21333 results. 21. PsycINFO; 11 OR 12 OR 13 OR 14 OR 15 OR 16 OR 17 OR 18 OR 19 OR 20; 490603 results. 22. PsycINFO; exp ANXIETY DISORDERS/; 53196 results. 23. PsycINFO; "Anxiety disorder*".ti,ab; 17849 results. 24. PsycINFO; 22 OR 23; 59602 results.	2	

	25. PsycINFO; "behavioural interventions*".ti,ab; 342 results. 26. PsycINFO; "behavioral interventions*".ti,ab; 3003 results. 27. PsycINFO; exp BEHAVIOR MODIFICATION/; 35524 results. 28. PsycINFO; exp COGNITIVE THERAPY/; 11037 results. 29. PsycINFO; RELAXATION THERAPY/ OR ANXIETY MANAGEMENT/ OR AUTOGENIC TRAINING/ OR GUIDED IMAGERY/ OR HYPNOTHERAPY [+NT]/ OR MEDITATION/ OR MUSCLE RELAXATION/ OR POSTHYPNOTIC SUGGESTIONS/ OR PSYCHOTHERAPEUTIC TECHNIQUES [+NT]/ OR SYSTEMATIC DESENSITIZATION THERAPY/; 28810 results. 30. PsycINFO; 25 OR 26 OR 27 OR 28 OR 29; 71155 results. 31. PsycINFO; 24 AND 30; 6610 results. 32. PsycINFO; GERIATRIC PATIENTS/; 9772 results. 33. PsycINFO; "older adult*".ti,ab; 21452 results. 34. PsycINFO; 32 OR 33; 29905 results. 35. PsycINFO; 31 AND 34; 45 results. 36. PsycINFO; 21 AND 35; 17 results. 37. PsycINFO; 36 [Limit to: Publication Year 2007-Current]; 2 results		
MEDLINE	1. MEDLINE; exp ANXIETY DISORDERS/; 58600 results. 2. MEDLINE; "anxiety disorder*".ti,ab; 14335 results. 3. MEDLINE; 1 OR 2; 63995 results. 4. MEDLINE; exp BEHAVIOR THERAPY/; 45268 results. 5. MEDLINE; "behaviour therap*".ti,ab; 1364 results. 6. MEDLINE; "behavior therap*".ti,ab; 2734 results. 7. MEDLINE; "behavior intervention*".ti,ab; 239 results. 8. MEDLINE; "behaviour intervention*".ti,ab; 57 results. 9. MEDLINE; 4 OR 5 OR 6 OR 7 OR 8; 46405 results. 10. MEDLINE; 3 AND 9; 6316 results. 11. MEDLINE; AGED/ OR MIDDLE AGED/; 3419475 results. 12. MEDLINE; "older adult*".ti,ab; 26154 results. 13. MEDLINE; GERIATRICS/; 25459 results. 14. MEDLINE; 11 OR 12 OR 13; 3439995 results. 15. MEDLINE; 10 AND 14; 1669 results. 16. MEDLINE; "randomized controlled trial".pt; 322037 results.	134	

	17. MEDLINE; "controlled clinical trial".pt; 83702 results. 18. MEDLINE; randomized.ab; 238038 results. 19. MEDLINE; placebo.ab; 133857 results. 20. MEDLINE; "drug therapy".fs; 1509972 results. 21. MEDLINE; randomly.ab; 175052 results. 22. MEDLINE; trial.ab; 245836 results. 23. MEDLINE; groups.ab; 1146357 results. 24. MEDLINE; 16 OR 17 OR 18 OR 19 OR 20 OR 21 OR 22 OR 23; 2889021 results. 25. MEDLINE; 15 AND 24; 842 results. 26. MEDLINE; 25 [Limit to: Publication Year 2007-Current]; 342 results. 27. MEDLINE; 26 [Limit to: (Age Groups All Aged 65 and Over) and Publication Year 2007-Current]; 134 results		
EMBASE	13. EMBASE; "anxiety disorder*".ti,ab; 18886 results. 14. EMBASE; "behaviour therap*".ti,ab; 2005 results. 15. EMBASE; "behavior therap*".ti,ab; 3853 results. 16. EMBASE; "behavior intervention*".ti,ab; 282 results. 17. EMBASE; "behaviour intervention*".ti,ab; 80 results. 18. EMBASE; "older adult*".ti,ab; 30070 results. 19. EMBASE; exp ANXIETY DISORDER/; 117753 results. 20. EMBASE; 13 OR 19; 120888 results. 21. EMBASE; BEHAVIOR THERAPY/; 33978 results. 22. EMBASE; 14 OR 15 OR 16 OR 17 OR 21; 36305 results. 23. EMBASE; AGING/ OR GERIATRIC CARE/ OR ELDERLY CARE/; 197964 results. 24. EMBASE; exp GERIATRICS/; 31417 results. 25. EMBASE; 18 OR 23 OR 24; 243806 results. 26. EMBASE; 20 AND 22 AND 25; 157 results. 27. EMBASE; random*.ti,ab; 688725 results. 28. EMBASE; factorial*.ti,ab; 18011 results. 29. EMBASE; (crossover* OR cross-over*).ti,ab; 58514 results. 30. EMBASE; placebo*.ti,ab; 166307 results. 31. EMBASE; (doubl* ADJ blind*).ti,ab; 122128 results.	7	

	32. EMBASE; (singl* ADJ blind*).ti,ab; 11618 results. 33. EMBASE; assign*.ti,ab; 192553 results. 34. EMBASE; allocat*.ti,ab; 64820 results. 35. EMBASE; volunteer*.ti,ab; 149768 results. 36. EMBASE; CROSSOVER PROCEDURE/; 32130 results. 37. EMBASE; DOUBLE BLIND PROCEDURE/; 103540 results. 38. EMBASE; RANDOMIZED CONTROLLED TRIAL/; 298978 results. 39. EMBASE; SINGLE BLIND PROCEDURE/; 14924 results. 40. EMBASE; 27 OR 39; 694299 results. 41. EMBASE; 26 AND 40; 25 results. 42. EMBASE; 41 [Limit to: Publication Year 2007-Current]; 7 results.		
CINAHL	13. CINAHL; "anxiety disorder*".ti,ab; 2089 results. 14. CINAHL; "behaviour therap*".ti,ab; 481 results. 15. CINAHL; "behavior therap*".ti,ab; 487 results. 16. CINAHL; "behavior intervention*".ti,ab; 134 results. 17. CINAHL; "behaviour intervention*".ti,ab; 31 results. 18. CINAHL; "older adult*".ti,ab; 15830 results. 19. CINAHL; exp ANXIETY DISORDERS/; 12976 results. 20. CINAHL; 13 OR 19; 13782 results. 21. CINAHL; exp BEHAVIOR THERAPY/; 9664 results. 22. CINAHL; 14 OR 15 OR 16 OR 17 OR 21; 10021 results. 23. CINAHL; GERIATRICS/; 1930 results. 24. CINAHL; exp AGED/; 275897 results. 25. CINAHL; 18 OR 23 OR 24; 279087 results. 26. CINAHL; 20 AND 22 AND 25; 94 results. 27. CINAHL; random.ti,ab; 14853 results. 28. CINAHL; randomized.ti,ab; 46271 results. 29. CINAHL; randomised.ti,ab; 14722 results. 30. CINAHL; review.ti,ab; 120185 results. 31. CINAHL; exp CLINICAL TRIALS/; 101958 results. 32. CINAHL; 27 OR 28 OR 29 OR 30 OR 31; 238984 results.	16	

	33. CINAHL; 26 AND 32; 32 results. 34. CINAHL; 33 [Limit to: Publication Year 2007-2012]; 16 results.		
Summary	**NA**	**NA**	

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