Chapter 11
Meta-analysis Comparing Different Behavioral Treatments for Late-Life Anxiety

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Objectives To examine the efficacy of different types of behavioral treatments including cognitive behavioral therapy (CBT) alone, CBT with relaxation training (RT), and RT alone in geriatric patients with anxiety [1].

Methods Selection of studies for inclusion was done by utilizing Internet databases (i.e., MEDLINE, PsycINFO) with the use of keywords, examining reference lists, and consulting geriatric anxiety experts. For inclusion, studies must (1) be published in English before September 2007, (2) report a mean sample age of 65+ years or have a lower age limit of 55+ years, (3) provide a prospective test of psychotherapeutic interventions for anxiety disorders, (4) include at least five subjects,

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(5) include subjects with subjective anxiety symptoms, (6) include treatments which are done for at least two sessions, and (7) have sufficient data for calculation of effect size. Approximately 300 abstracts were screened, and 83 articles were reviewed. Nineteen studies met the inclusion criteria.

Of the 19 included studies, 8 included subjects with generalized anxiety disorder (GAD), 5 included subjects with mixed anxiety disorders (predominantly GAD and panic disorder (PD)), 5 included subjects who complained of anxiety symptoms but had no diagnosis, and 1 included subjects with diagnosis of panic disorder (PD). Four of the studies had no control condition for comparison, but the remaining 15 studies had 1 or 2 active control conditions which in the included studies meant supportive psychotherapy, "nonformal" CBT or relaxation instruction, group discussion, psychoeducation, or weekly medication management.

Only anxiety and depressive measures were used for this analysis.

Thirteen of the 19 studies utilized the trait anxiety measure to measure anxiety symptoms. Ten studies included worry measures such as Penn State Worry Questionnaire. Nine studies reported clinician-rated as well as self-reported instruments. Sixteen studies included at least one depressive measure to measure depressive symptoms. Most used was Beck Depression Inventory (BDI). The Hamilton Rating Scale for Depression was used in three studies.

Overall, 24 treatment samples along with 8 active control and 8 waitlist control groups were constructed from 19 studies and were categorized into 5 sample groups:

1. Waitlist/no treatment control groups (8 samples)
2. CBT with RT (12 samples)
3. CBT without RT (5 samples)
4. RT only (7 samples)
5. Active controls (8 samples)

The above five groups were defined by the review authors and based on rater's determinations of whether relaxation training was sufficient to classify a treatment in this group or whether it was to be considered "traditional CBT strategies" only. CBT delivery was not standardized. Relaxation training included different modalities. Some treatment was given in groups and some individually. Three studies appear to have included recent widows without anxiety diagnoses only. Two other included studies required "moderate depression and trait anxiety" and "uncomfortable anxiety," respectively.

The effect sizes were calculated using the standardized mean difference statistics (Hedges's g) for anxiety and depressive measures between and within groups, and the results were then averaged among all studies. The Q statistics were calculated to test for heterogeneity among effect sizes of treatment groups. In cases where standard deviations were not available and could not be obtained, review authors substituted standard deviations from similar populations.

The effect sizes were calculated for uncontrolled conditions in which treatment modalities were not compared with active controls. Effect sizes were also calculated for controlled conditions in which treatment modalities were compared with active controls. Positive effect sizes meant a reduction in anxiety and depressive symptoms.

Results The mean uncontrolled effect sizes (defined as comparison of active treatment or active control against no treatment) for all treatment groups were RT alone (0.91), CBT with RT (0.86), and CBT alone (1.18). All were larger than active controls (0.50) and no treatment group (0.05) effect sizes on anxiety measures.

For depressive measures, the effect sizes were RT alone (0.77), CBT with RT (0.77), CBT alone (0.78), active controls (0.53), and waitlist group (0.20).

The mean controlled effect sizes (defined as comparison of active treatment against active control) for RT were 0.90, CBT with RT were 0.33, and CBT alone were 0.00. There were no apparent outcome differences among the three types of treatments on depressive symptoms and all effect sizes were small (0.23, 0.12, 0.23). For anxious subjects, the 95% confidence interval included zero for both CBT conditions. On depressive measures, the 95% confidence interval included zero for all three conditions.

The results suggest that RT may be somewhat more effective than CBT on anxiety measures. Relaxation training had no significant advantage over the other behavioral treatments on depressive measures. Two of the three studies comparing CBT without RT to an active alternative treatment found that the alternative condition led to greater gains than did CBT alone suggesting that CBT alone could be a relatively weak intervention for geriatric anxiety.

Conclusions The results suggest that anxious older adults are unlikely to spontaneously stop feeling anxious. Both relaxation training and cognitive behavioral therapy appear to be more effective than no treatment for older adults with subjective anxiety. Relaxation training (RT) provided the most benefit when provided as a stand-alone treatment. To understand the roles of RT and CBT in addressing anxiety and depression in older adults, better definition of treatment delivered and populations receiving it would be necessary.

Strengths of the Study

1. Standardized instruments were used to conduct analysis, and Q statistics were used to test heterogeneity among individual studies and treatment groups.
2. Per authors, the study represents the closest approximation to a dismantling study and thus can be used in clinical and research application of psychotherapeutic studies.

Limitations of the Study

1. Data was extracted from a limited number of studies with variable sample sizes and populations studied. Individual studies were parsed into different samples for comparison with such subsets from other studies. When standard deviations were not available, the review authors estimated them based on other samples.
2. Four out of 19 studies did not have a control arm of any kind.
3. The randomization of study samples was not noted.
4. The demographic differences between studies were not examined.
5. The scales to measure anxiety/depressive measures were not consistent among all studies.

6. The authors chose their own taxonomy to define treatment modalities which could be different from used or intended by the authors of the original studies. For example, included studies with psychosocial treatments were considered to be RT if components of RT were included. Sometimes techniques such as mindfulness training were included. The fidelity of treatments to standards was not clear. Some treatments were done in group formats and this analysis combines them with treatments delivered individually.
7. Heterogeneity in effect sizes was found within treatment group RT, suggesting that effectiveness of RT may differ in real-life situation based on how RT is administered, or the type of relaxation training used.

Take-Home Points Despite the limitations, this analysis suggests that CBT, RT, and "active control" treatments are more efficacious in late-life anxiety than no treatment. Among CBT, a variety of active control treatments and relaxation therapy, relaxation therapy appeared most beneficial in decreasing anxiety in a geriatric population. However, the method of administration of RT was not similar in all included studies. The author suggests that more research is needed in this area to identify specific RT which would be most beneficial in geriatric anxiety.

Practical Applications Relaxation training can be a less complex intervention than other forms of behavioral interventions for anxiety in geriatric population. RT alone or with CBT could be an attractive option to treat late-life anxiety.

Reference

1. Thorp SR, Ayers CR, Nuevo R, Stoddard JA, Sorrell JT, Wetherell JL. Meta-analysis comparing different behavioral treatments for late-life anxiety. Am J Geriatr Psychiatry. 2009;17(2):105–15.