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Group-based Relaxation Response Skills Training for pharmacologically-resistant depressed and anxious patients

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Running head: Relaxation response training.

Abstract

Background: Drug-resistance for depression and anxiety is a major limitation in the treatment of these common disorders, and adjunct support interventions may be beneficial in the treatment of these patients.

Aims: The purpose of this study was to evaluate the effects of a short-term (8 session) Relaxation Response Skills Training (RRST) programme for a population of psychiatric outpatients with anxiety and mood disorders who were unresponsive to drug treatment, and to test the feasibility of this intervention as complementary treatment for a psychiatric setting.

Methods: Forty patients were measured for overall psychopathological symptoms, depression, and anxiety, and were then given an 8-week course of RRST, while continuing their pharmacological treatment. Following the RRST intervention, participants were again assessed.

Results: The results demonstrated reductions in overall symptoms (large effect size and reasonable clinically significant change), and also in depression and anxiety (medium effect sizes and clinically significant change).

Conclusions: These results suggest that this short-term RRT offers a simple and cost-effective way to augment drug management for participants with common psychiatric disorders who are less responsive to the drug treatment.

Key words: relaxation training, depression, anxiety, drug resistance.

Anxiety and Mood Disorders are among the most prevalent psychiatric conditions that require treatment, and their associated problems are the most relevant symptoms leading to patient referral to psychiatric units. Psychopharmacological treatment is highly common for these patients, but noncompliance and/or drug-resistance can reduce its effectiveness (Trivedi et al., 2006). Given these considerations, developing effective psychological interventions as an alternative or complement to pharmacological treatment is a clear need. There is evidence that Cognitive Behaviour Therapy (CBT) can provide benefit as a complementary support for pharmacological treatment (Wiles et al., 2013). A drawback to the implementation of CBT in publically-funded healthcare systems is its typical one-to-one delivery and consequent relatively high cost. There are a range of psychosocial treatments whose characteristics may overcome some of these drawbacks. Relaxation-based approaches have some efficaciousness across a range of clinical conditions, and can be applied in group settings (McGillivray & Evert, 2014). For example, Applied Relaxation, and Behavioural Relaxation Training, have been shown to be effective in a number of settings. Additionally, Relaxation Response Skills Training (RRST) has been employed for the treatment of a broad set of clinical conditions in which stress is common factor (Benson et al., 1974). RRST is a self-regulatory integrated approach to stress reduction and emotion management that includes relaxation training, cognitive restructuring (learning to identify problematic thoughts such as catastrophising and over-generalization), mindfulness (focusing attention on the present moment and accepting feelings), and meditative techniques (e.g., focusing concentration on a single object). As this procedure can be applied easily in a group setting, it was thought worthwhile to document its impact on outcomes of depressed and anxious patients who had displayed drug-resistance.

Method

Participants

Forty consecutively referred patients (11 male and 29 female), with a diagnosis of an anxiety (16; 14 Generalised Anxiety Disorder, 1 Adjustment Disorder, 1 Anxiety Disorder No Specification) or depressive (24; 16 Anxious Depressive Syndrome, 5 Major Depressive Recurrent, 1 Dysthymic Disorder, 1 Bipolar Disorder II, 1 Bipolar disorder No Other Specification) disorder, had a mean age of 48.50 (\pm 13.15; range = 19 – 69) years. The patients were only partially responsive to pharmacological treatment (21 SSRI; 19 SNRI) with: (i) no more than 50% improvement on the Hamilton Depression or Anxiety scales; (ii) no symptom reduction/remission over 75% on the Hamilton Scales; (iii) the same symptoms for more than 6 months; (iv) two cycles of drug treatment; and (v) pharmacological treatment for three months.

Materials

Symptom Checklist 90 (SCL-90) is a self-report instrument evaluating psychopathological symptoms. It produces a Global Severity Index (GSI) for overall psychological distress (internal reliability, $\alpha = .97$).

Hamilton Depression and Anxiety Scales (HAMD; HAMA) are clinician-rating scales that indicate depression and anxiety ($\alpha = .97$).

Beck Depression Inventory (BDI) is a self-report questionnaire that assesses the clinical symptoms of depression ($\alpha = .92$).

Spielberger Trait Anxiety Inventory (STAI-T) is a self-report questionnaire that assesses trait anxiety ($\alpha = .93$).

Procedure and Intervention

Patients were taught a variety of techniques as part of the RRST programme, including: relaxation (using the relaxation response procedure), cognitive restructuring techniques, mindfulness, and meditative techniques (see long version of article for more detail). Training was delivered in 8-weekly, 2-hour group sessions (with a 10min break in the middle); with a one-hour individual assessment session at intake, and a one-hour post-treatment individual assessment session. Each session was run by two co-therapists: a psychologist and a psychiatrist. During Session 1, the participants were taught about the concepts of stress, coping, and the role of breathing in helping reduce stress. In this and in subsequent sessions, the time was split approximately evenly between didactic education and discussion and practice of the targeted skills. In Session 2, there was a focus on the psychophysiology of stress and relaxation, followed by an introduction to a number of relaxation exercises. In Session 3, there was an introduction to the psychophysiology of emotions, followed by instruction and training in a mindfulness exercise (typically focused breathing). In Session 4, there were life-style and physical activity assessments, followed by the introduction of a meditation exercise. In Session 5, there were lessons on life style and nutrition, followed by a contemplation exercise. Session 6 included a stress and cognitive structuring exercises, followed by further instruction and practice of relaxation exercises. Session 7 focused on resilience and protective factors related to anxiety and depression, followed by a relaxation exercise. Finally, Session 8 dealt with resources about relapse prevention and further relaxation exercises. During the first individual assessment session, patients were given the psychological tests. They then participated in the eight-week RRST programme. Following completion of the intervention, the patients were again given the tests.

Results

Table 1

All patients completed the programme (i.e. attended all of the 8 sessions). Table 1 shows the mean numbers of symptoms (SCL-90), depression scores (BDI and Hamilton), and anxiety scores (STAI and Hamilton), for the sample pre- and post-intervention, and the mean change (post-treatment minus pre-treatment scores) across the programme. Table 1 also shows the significance of this change assessed by a paired t-test (due to the number of tests a Bonferonni correction, $.05/5 = .01$, should be applied when considering the significance of these data), and the effect size (d) for this value. Inspection of the pre-intervention scores shows that the mean number of symptoms was higher than the suggested clinical cut-off, as were the self-rated (BDI) and clinician-rated (HAMD) depression scores. Similarly, the mean self-rated (STAI) and clinician-rated (HAMA) anxiety scores were higher than the cut-off point for the presence of anxiety. After treatment, all scores had decreased below the respective cut-off points for moderate clinical severity. These reductions were statistically significant for all of the measures, with there being large effect-sized decreases for the overall symptoms, and for clinician-rated depression and anxiety. Table 1 displays correlations between both age and gender and change scores. In no cases were the changes in the outcome variables significantly related to the potential predictors, all $ps > .06$.

Discussion

That the RRST programme was successful with patients who had previously demonstrated little change in their symptomatology through the use of pharmacological interventions is encouraging, and adds to the number of psychological supports that may be considered for this patient group (Wiles et al., 2013). The treatment had good patient acceptability, with none of the cohort dropping out. This is a striking feature of the data, and

it is unclear whether this aspect is specific to the therapists/setting employed here, or would generalise to other settings. Additionally, the overall symptoms showed moderate improvement. The effect sizes and the levels of reliable and clinically-significant change for this treatment are somewhat lower than those seen for group-based CBT for non-drug resistant patients (Nakao et al., 2001), but they are comparable with those reported of the impact of CBT on drug-resistant patients (Wiles et al., 2013); the moderate effect sizes of the current study were broadly similar to those seen in previous studies of psychological support for drug-resistant patients (Wiles et al., 2012). However, these improvements were the result of group-based rather than individual sessions, which may offer benefit in terms of cost-effectiveness. The results of the study could be developed by further work including the use of a control group, measurement of the target behaviours taught in the programme, inter-rater agreement on the clinician measures, and the addition of a longer-term follow up assessment. Additionally, it should be noted that the programme is complex, and it might be that not all components are needed. That depression decreased more than anxiety is paradoxical given relaxation reduces arousal, and it may be that social support is a major active component of this procedure. However, the current preliminary results suggest that this short-term RRST offers a simple and cost-effective way to augment management for the most common psychiatric disorders, as complementary intervention in case of patients less responsive to the drug treatment.

Ethical Considerations.

The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committees on human experimentation and with the Helsinki Declaration of 1975, and its most recent revision. Permission for the research was granted by the Ethics Committee of the hospital at which the work was conducted.

Conflict of Interest

The authors have no conflict of interest with respect to this publication.

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Table 1: Mean (standard deviations) for overall symptoms (SCL-90), depression (BDI), and anxiety (STAI) for the sample pre and post treatment, as well as the mean change score (post minus pre) and the correlations between the change score and the participants age (Pearson) and gender (point biserial).

Overall	Pre	Post	Change	Age	Gender	Change t(39)	d
Symptom Number	94.13 (37.39)	66.05 (38.33)	-28.08 (31.41)	.316	-.079	5.63***	.893
Depression (BDI)	15.77 (7.58)	12.24 (7.41)	-3.53 (6.96)	.143	-.128	3.20**	.506
Depression (Hamilton)	19.15 (5.95)	12.77 (5.27)	-6.35 (4.31)	.162	-.275	9.32***	1.475
Anxiety (STAI)	53.33 (11.56)	49.25 (10.51)	-4.08 (8.84)	.261	-.001	2.92**	.461
Anxiety (Hamilton)	18.00 (5.90)	11.18 (4.99)	-6.82 (5.99)	-.018	-.162	7.20***	1.140

* $p < .05$; ** $p < .01$; *** $p < .001$