The efficacy and cognitive processes of cognitive behaviour therapy in the treatment of panic disorder with agoraphobia

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Authors' objectives
To examine the effectiveness of cognitive behaviour therapy (CBT) as treatment for panic disorder with agoraphobia (PDA), and to evaluate whether the efficacy of CBT treatments is related to the change in cognitive processes that are postulated to be important in the cognitive models of PDA.

Searching
Two computer searches were conducted, from 1969 to 1989 and from 1990 to 1996, for studies published in the English language on CBT and PDA. PsycLIT CD and Carl online were searched using the keywords 'panic disorder', 'agoraphobia', 'treatment' and 'outcome'. Studies were excluded if they were a subset of an already included study.

Study selection
Study designs of evaluations included in the review
The inclusion criteria were not defined in terms of study design. A variety of study designs were included: group comparisons; single case studies; multiple baseline across participants; post hoc designs; sequential staggering of treatment conditions; and time series and repeated measures. Follow-up periods ranged from none to 9 years.

Specific interventions included in the review
Studies employing CBT were eligible. CBT approaches included: cognitive restructuring and training; self-statement training; paradoxical intervention; covert rehearsal of coping with anxiety; reattribution of somatic symptoms; coping thoughts training; thought stopping; breathing training and relaxation training; enhancement procedures; family systems therapy; gestalt therapy; interpersonal feedback; stress inoculation training; self-reinforcement; yogic breathing; and variations of prolonged exposure. CBT was also compared with other forms of therapy including fluvoxamine, exposure alone, waiting list control and varying versions of CBT.

Participants included in the review
Eligible patients had agoraphobia with panic attacks (APA), as defined by the American Psychiatric Association (see Other Publications of Related Interest no.1), or PDA (see Other Publications of Related Interest nos.2-3), or would have met either of these criteria had they been applied. Participants were largely female, accounting for 80% where gender was reported.

Outcomes assessed in the review
The inclusion criteria were not defined in terms of outcome measures. Some studies employed few outcome measures whilst others employed large and comprehensive batteries of tests. Few studies included physiological as well as cognitive and behavioural assessments. The following outcomes were assessed: panic measures; fear and avoidance measures (Fear Questionnaire, Mobility Questionnaire, Phobic Anxiety and Avoidance Scale); severity and intensity measures (SUD scales, Global Assessment of Severity Scale); general anxiety measures (Taylor Manifest Anxiety Scale, Anxiety Mood Scale); social anxiety measures (Fear of Negative Events, Social Avoidance and Distress Scale, Social Phobia of the Fear Questionnaire); general symptomatology (Hopkins Symptom Checklist, Subjective Symptoms Scale, Subjective Symptoms Checklist, Lehrer and WoolfFolk Symptom Questionnaire, Symptom Checklist 90-R); behavioural measures; cognitive measures; physiological measures (Heart Rate, skin conductance, trapezious electromyographs); locus of control (Locus of Control, Scale); depression measures (Beck Depression Inventory); marital status measures (Marital Adjustment Scale, Marital Happiness Scale, Marital Dissatisfaction Questionnaire); assertiveness measures (Adult Self-Expression Scale, Gambrill and Rickey Assertiveness Inventory, Wolfe-Lazarus Assertiveness Inventory); endstate functioning and improvement (Operationalised Measure of Endstate Functioning, Operationalised Measure of Endstate Improvement, Composite Measure); and miscellaneous other measures (valium intake, car mileage, Daily Self Appraisal Interviews, Rate of Hospital Admissions, Biographical Data Sheets, Home Visit Observations, Behavioural
How were decisions on the relevance of primary studies made?
The authors do not state how the papers were selected for the review, or how many of the reviewers performed the selection.

Assessment of study quality
The authors do not state that they assessed validity.

Data extraction
The authors do not state how data were extracted for the review, or how many of the reviewers performed the data extraction. Tables reported in the review included the following information: author; year of publication; study design; number of participants; treatment groups; outcome measures; follow-up; use of cognitive measures; change in cognitive measures post-treatment or follow-up; and outcome. For studies included in the meta-analysis, standardised effect sizes were calculated from the Fear Questionnaire data for the relevant treatment group.

Methods of synthesis
How were the studies combined?
The studies were combined both in a narrative review and in a meta-analysis. In the narrative review, outcome domains were discussed in terms of whether CBT was associated with any significant change in each of the arms or not. In the meta-analysis, the effect size for the CBT group in the studies was calculated for pre-test, post-test and follow-up results on the Fear Questionnaire using the norms of Nietzel and Trull (see Other Publications of Related Interest no.4). Results were calculated both for the Agoraphobia subscale and for the Total Phobia subscale.

How were differences between studies investigated?
The authors do not state how differences between the studies were investigated.

Results of the review
Thirty-five studies were included in the narrative review (1,317 patients). These included 17 RCTs and 4 non-RCTs. RCTs predominantly compared types of CBT.

Eleven studies were included in the meta-analysis for the Fear Questionnaire agoraphobia subscale, and 7 studies were included in the meta-analysis for the Fear Questionnaire total scale scores.

Narrative review.

Panic measures (21 studies): all reported improvement by post-treatment or follow-up. Fear and avoidance measures (27 studies): all reported improvement by post-treatment and/or follow-up. Severity and intensity measures (16 studies): all reported improvement by post-treatment or follow-up. One study did not find improvement during post-treatment to follow-up. General anxiety measures (19 studies): results were inconsistent. Seventeen studies reported improvement and 2 studies reported no statistical improvement.

Social anxiety measures (5 studies): results were inconsistent. Four studies reported improvement and 1 study reported no statistical improvement.

General symptomatology (9 studies): all reported improvement with at least one of the measures used. One study reported inconsistent results.

Behavioural measures (16 studies): although results were inconsistent, all but 2 studies reported improvement.

Cognitive measures (16 studies): all but 1 study reported improvement.
Physiological measures (5 studies): results were inconsistent.

Locus of control (7 studies): all reported improvement across treatment and follow-up phases of up to 6 months.

Depression measures (23 studies): all reported significant reductions in depression.

Marital status measures (4 studies): CBT does appear to impact on marital state, but not always in a positive direction.

Assertiveness measures (5 studies): 4 studies reported improvement but with some inconsistent results.

Endstate functioning and improvement (10 studies): CBT was associated with improvement.

Meta-analysis.

Fear Questionnaire agoraphobia subscale (11 studies, 18 treatment arms).

Patients on average moved from 3.88 to 1.70 standard deviations (SD) of the collegiate mean at post-treatment, and to 1.70 SD at follow-up.

Patients on average moved from 1.37 to 0.17 SD of the general population mean at post-treatment, and to 0.24 SD at follow-up.

Total phobia subscale (7 studies, 11 treatment arms).

Patients on average moved from 2.11 to 0.38 SD of the collegiate mean at post-treatment, and to 0.29 SD at follow-up.

Patients on average moved from 0.97 to -0.48 SD of the general population mean at post-treatment, and to -0.47 SD at follow-up.

Authors' conclusions

The results show that CBT is an effective treatment for PDA. However, the contribution of cognitive processes to this disorder, and the role they play in the successful outcomes of CBT, remain unclear and in need of further empirical investigation. At present, treatment by CBT provides limited support to validate the cognitive models of PDA.

CRD commentary

The aims were stated and the inclusion criteria were defined in terms of the intervention and participants. No attempt was made to locate unpublished material, raising the possibility of publication bias. Limiting included studies to those published in the English language may have resulted in the omission of other relevant studies. The methods used to select studies were not described. Validity was not assessed, and no indication was given of the quality of the studies on which the conclusions were based. Methods used to extract data were not described, though some relevant details from individual studies were presented in tabular format.

Data were combined both in a narrative review and in a meta-analysis. In the narrative review, study design was ignored with results from CBT treatment arms considered without taking into account any within-study comparison group, and attention was not drawn to better-quality evidence. In the meta-analysis, equal weight was given to studies regardless of sample size, statistical heterogeneity was not assessed and effect sizes were calculated using CBT groups only, again taking no account of comparison with control treatment. No comment was made on the potential impact on levels of statistical significance of the use of multiple outcome measures.

In view of the above comments, considerable caution must be applied in interpreting the conclusions.

Implications of the review for practice and research

Practice: The authors did not state any implications for practice.
Research: The authors state that future research is required not only to evaluate the importance of cognitions in the successful outcome of CBT for PDA, but also to take into account the possible role of other mechanisms in achieving such an outcome.

Bibliographic details

Other publications of related interest

Indexing Status
Subject indexing assigned by CRD

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Agoraphobia /therapy; Cognitive Therapy; Panic Disorder /therapy

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Record Status
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.