Research article
Ερευνητική εργασία

# Evaluation of cognitive-analytic therapy (CAT) outcome in patients with panic disorder

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Two categories of treatment have been shown to be effective in treating panic disorder with or without agoraphobia. One is pharmacotherapy using antidepressants and benzodiazepines and the other is psychotherapy. The present study aims at the assessment of the outcome of Cognitive-Analytic Therapy (CAT), a type of brief psychotherapy, in a sample of 128 psychiatric outpatients with DSM-IV diagnosis of panic disorder, who attended the Mental Health Center of Northwestern District of Thessaloniki. For this purpose, validated instruments for the evaluation, such as the Minnesota Multiphasic Personality Inventory (MMPI), the Beck Depression Inventory (BDI), the State-Trait Anxiety Inventory (STAI) and the Post-therapy Questionnaire (PtQ), were used. The patients were evaluated in two follow ups, 2 months and 1 year after therapy termination. The results showed that on the 2 month follow up 78 patients showed a statistically significant improvement in comparison to the intake time, in all but two (Mf, Ma) clinical scales of the MMPI, on their sum and on some research scales of the MMPI, on the BDI and on the STAI scores. On the 1-year follow-up, according to the results of the MMPI, BDI, STAI and PtQ, the patients maintained the achieved improvement. The above results indicate that CAT is an effective brief psychotherapeutic approach for patients with panic disorder.

**Key words:** panic disorder, cognitive-analytic therapy

## Introduction

Psychotherapy, in general,[1] is an effective therapeutic approach, which, as has been demonstrated, has a positive effect on patients.[1,2] During the last decades numerous studies took place that attest to the efficacy of psychotherapy.[3]

A significant number of patients attending outpatient services receive a diagnosis of an anxiety disorder, more frequently a diagnosis of panic disorder (PD). In recent times, with the development of novel effective and safe drugs, i.e. antidepressants, pharmacotherapy is the treatment choice for PD. However, there are studies supporting that a psychotherapeutic approach could be at least as effective as medication. The most investigated approaches are the cognitive-behavioral (CBT) treatments. In a recent meta-analysis, Hofmann and Smits[4] report that randomized placebo-controlled trials indicate that CBT is efficacious for adult PD.

Cognitive-Analytic Therapy (CAT) is a brief psychotherapy, developed in the late 70's by Anthony Ryle,[5–7] which integrates in theory and practice concepts and methods from cognitive, psychoanalytic, behavioral and other approaches. There are studies indicating the effectiveness of CAT in patients with various psychiatric disorders.[8–11] The aim of the present study is to investigate the outcome of CAT in a sample of outpatients with a diagnosis of PD.

## Material and method

The study was carried out in the Community Mental Health center of Northwestern District of Thessaloniki. The Center has a standard intake procedure including diagnostic interview and completion of various psychometric tests followed by a disposition-conference where diagnosis is established and the treatment modality is decided. The diagnoses are made according to DSM-IV criteria. All the scientific personnel of the center who are involved in diagnostic interviews are trained and experienced in the use of this diagnostic system.

The sample of the study consisted of patients, who received –by consensus of the therapeutic team– a diagnosis of PD and for whom it has been decided to be treated by CAT. The patients were also reassessed months and 1 year after therapy termination. At follow-up:

1. They had an interview with their therapists during which the therapist and the patient completed the Post-therapy Questionnaire (PtQ),[12] specifically designed for CAT post-therapy evaluation. The questions tested in the present study were: (a) Could the patient remember what problems brought him/her to therapy? (b) What was the new understanding he/she gained during therapy, i.e. reformulation? (c) Had this understanding been helpful? These questions were scored from 0=no correspondance with problems/reformulation or unhelpful to 3=full correspondance or very helpful. (d) Had they find helpful or not some basic aspects of CAT such as psychotherapy file, self-monitoring, diary, rating sheets, relationship with the therapist, the fact that therapy was time limited? These questions were scored from 1=very unhelpful to 5=very helpful. (e) Did they believe that they needed further therapy or not.
2. Then the patients completed the Beck Depression Inventory (BDI), the State-Trait Anxiety Inventory (STAI) and the Minnesota Multiphasic Personality Inventory (MMPI) if they had completed the same tests at intake. All tests were adapted for use in Greece, the BDI in 1983,[13] the MMPI in 1980[14] and the STAI in 1984.[15] For the completion of the MMPI a ninth grade education is necessary.

## Results

A total sample of 128 patients with a diagnosis of panic disorder were assigned to CAT from January 1999 to December 2008. Nine of them (7%) did not turn up for the first session. From the rest 119, 19 (16%) dropped out and 100 completed therapy. Eighty two (82%) of them attended the first, i.e. 2-month, follow up. From the 92 individuals who should have come to the 1-year follow-up, 52 (57%) came and 40 (43%) did not. Six (7%) patients who came in the 2-month follow-up received further therapy. The majority of the first follow-up attenders were women (79%), married (54%), while had a mean age of 33.4±8.9 years. Furthermore, 49% manifested a comorbidity with other Axis I diagnoses, mostly depressive dis-

orders (32%), while 58% received an additional Axis II diagnosis, mainly avoidant and obsessive compulsive personality disorder.

At the time of the 2-month follow-up, the patients manifested a statistically significant improvement on BDI score compared to the intake (18.4±8.2 vs 12.1±7.3, t=5.20, p<0.001). Similar results were obtained by the comparison of the intake and 1-year follow-up (19.2±8.9 vs 12.4± 8.2, t=4.05, p<0.001) while there was no significant difference between the two follow-ups (12.8±9.1 vs 12.4± 8.2, t=0.23, p>0.1). The same picture revealed the comparison regarding the STAI scores: intake-2-month (State: 56.4±11.3 vs 43.8±10.1, t=7.53, p<0.001, Trait: 57.2±10.0 vs 44.9±11.0, t=7.49, p<0.001), intake – 1-year (State: 57.6±10.4 vs 42.9±9.7, t=7.45, p<0.001, Trait: 58.0±10.2 vs 43.7±10.3, t=7.11, p<0.001), 2-month–1-year (State: 44.5±9.9 vs 42.9±9.7, t=0.83, p>0.1, Trait: 45.1±9.9 vs 43.7±10.2, t=0.71, p>0.1).

Table 1 includes the MMPI T-scores of those patients (N=78) who had the appropriate level of education, completed the test and their tests were valid at the time of the intake and at the 2-month follow-up. The MMPI scales are all the clinical scales and their sum, the validity scales K and L and some of the research scales, such as A (Anxiety), Es (Ego Strength), Dy (Dependency), Mas (Manifest anxiety), Soc (Social maladjustment), Mor (Poor Moral). The Es scale is the only one from the clinical and research scales where a higher score means better psychological state. The patients manifested a statistically significant improvement in all but two (Mf, Ma) clinical scales of the MMPI, on their sum and on some research scales, at the 2-month follow-up compared to the intake. Similar results were revealed at the comparison of the intake and the 1-year follow-up (table 2) while the comparison between the two follow-ups did not manifest a significant difference (table 3).

Table 4 depicts the scores on the questions of Post-therapy Questionnaire of the patients (N=52) who came to the 1-year follow-up compared to their scores at the 2-month follow-up. At the 1-year follow up the patients find more helpful the new understanding, the self-monitoring and the fact that therapy was time limited, compared to the 2-month follow-up. Finally, it is worthwhile to mention that

**Table 1.** MMPI T-scores before CAT and at the time of 2-month follow-up (N=78)

| | *Intake* | *2-month* |
|---|---|---|
| Hs* | 67.1±10.0 | 55.4±11.2 |
| D* | 63.8±12.0 | 53.2±11.5 |
| Hy* | 64.4±11.1 | 53.8±10.7 |
| Pd* | 60.2±8.8 | 52.3±9.9 |
| Mf | 48.7±11.2 | 48.4±10.7 |
| Pa* | 58.4±9.3 | 51.2±9.4 |
| Pt* | 65.7±10.4 | 52.9±10.7 |
| Sc* | 59.8±10.1 | 50.3±11.0 |
| Ma | 49.9±8.3 | 50.8±10.2 |
| Si* | 61.4±10.2 | 51.7±9.4 |
| Sum* | 599.5±55.7 | 520.1±58.3 |
| A* | 61.2±10.5 | 51.3±9.8 |
| Es* | 39.8±10.2 | 50.5±11.1 |
| Dy* | 63.4±11.3 | 52.7±10.6 |
| Mas* | 66.2±10.4 | 52.1±10.7 |
| Soc* | 60.9±10.7 | 51.2±9.8 |
| Mor* | 63.3±10.9 | 53.4±11.2 |
| K* | 49.7±9.4 | 55.8±10.4 |
| L | 50.3±9.8 | 52.0±10.3 |

*p<0.001, Paired t-test, df: 77, ES: higher score indicates better psychological condition

**Table 2.** MMPI T-scores before CAT and at the time of 1-year follow-up (N=49)

| | *Intake* | *1-year* |
|---|---|---|
| Hs* | 66.8±11.1 | 54.9±10.6 |
| D* | 63.3±11.8 | 52.8±11.2 |
| Hy* | 63.9±11.0 | 53.2±10.4 |
| Pd* | 59.8±9.1 | 52.2±10.3 |
| Mf | 48.9±11.6 | 48.6±10.9 |
| Pa* | 58.6±9.7 | 51.5±9.9 |
| Pt* | 66.0±10.9 | 52.7±10.4 |
| Sc* | 59.7±10.8 | 50.5±10.7 |
| Ma | 49.6±8.9 | 50.1±10.4 |
| Si* | 60.9±10.6 | 51.4±9.8 |
| Sum* | 597.6±57.2 | 517.9±60.1 |
| A* | 61.4±11.0 | 51.6±10.2 |
| Es* | 40.0±10.1 | 50.9±11.3 |
| Dy* | 62.9±11.1 | 52.0±10.3 |
| Mas* | 66.6±10.2 | 51.8±10.2 |
| Soc* | 60.6±10.9 | 51.0±9.7 |
| Mor* | 63.0±10.4 | 53.1±11.4 |
| K* | 49.9±10.0 | 55.4±10.6 |
| L | 50.6±10.1 | 51.9±10.5 |

*p<0.001, Paired t-test, df:48, ES: higher score indicates better psychological condition

**Table 3.** MMPI T scores at the 2-month and at 1-year follow-up (N=49)

| | *2-month* | *1-year* |
|---|---|---|
| Hs | 55.2±11.0 | 54.9±10.6 |
| D | 53.4±11.4 | 52.8±11.2 |
| Hy | 53.4±11.0 | 53.2±10.4 |
| Pd | 52.7±10.2 | 52.2±10.3 |
| Mf | 48.5±10.5 | 48.6±10.9 |
| Pa | 51.6±9.7 | 51.5±9.9 |
| Pt | 53.3±10.4 | 52.7±10.4 |
| Sc | 50.6±10.9 | 50.5±10.7 |
| Ma | 50.5±10.2 | 50.1±10.4 |
| Si | 51.9±9.7 | 51.4±9.8 |
| Sum | 521.1±56.4 | 517.9±60.1 |
| A | 51.7±9.5 | 51.6±10.2 |
| Es | 50.6±11.2 | 50.9±11.3 |
| Dy | 52.8±10.3 | 52.0±10.3 |
| Mas | 52.0±10.2 | 51.8±10.2 |
| Soc | 51.4±10.0 | 51.0±9.7 |
| Mor | 53.5±11.4 | 53.1±11.4 |
| K | 55.6±10.1 | 55.4±10.6 |
| L | 52.2±10.6 | 51.9±10.5 |

Paired t-test, df: 48, None of the differences between groups reached statistical significance

the highest score on both follow-ups is on the question "relationship to the therapist".

## Discussion

The results of the present study indicate that in a public health service patients with panic disorders show a considerable improvement after receiving CAT. The percentage of patients who completed therapy (84%) is quite similar to that found in two previous studies, i.e. 87%[10] and 85.5%,[11] and to that of an English study (82%).[9] The sample of the above three studies consisted of patients with different psychiatric disorders, mainly depressive and anxiety disorders. The rate of follow-up attendance i.e. 82% in the 2-month and 57% in the 1 year, is quite satisfactory and considerably higher to that of the study by Dunn et al,[9] who reported that 52% of patients attended a follow-up 3–6 months after therapy termination. It has been reported that is difficult to have high percentages of attendance in follow, ups at 4 months and beyond.[16] The failure to attend follow up could reflect a wish to move on after a difficult time or resentment at unsuccessful intervention.[9]

The choice of the two follow-ups at different time intervals after the end of therapy is recommended for psychotherapy outcome studies especially for brief psychotherapeutic interventions.[17,18]

The fact that only 7% of patients were referred on for further treatment suggests a satisfactory impact. However, as the decisions about offering further therapy were made after the 2-month follow-up assessment, it is not clear whether the above rate is completely representative, as an additional percentage of 18% did not attend the follow-up.

As far as the method used for assessing outcome is concerned the combination of psychometric tests, such as BDI, MMPI and STAI and post-treatment rating by the patient and therapist using a scale, such as

**Table 4.** PtQ scores of the patients at the 2-month and 1-year follow-up (N=52)

| | *2-month* | *1-year* |
|---|---|---|
| 1. Presented problem | 2.8±0.4 | 2.7±0.6 |
| 2. Correspondence with reformulation | 2.6±0.6 | 2.5±0.5 |
| 3. Helpful or not* | 2.4±0.5 | 2.7±0.6 |
| 4. Helpful or not | | |
| – Psychotherapy file | 3.8±0.8 | 3.9±0.9 |
| – Self-monitoring* | 3.9±0.7 | 4.2±1.0 |
| – Diary | 3.1±0.5 | 3.2±0.7 |
| – Ratings | 3.7±0.7 | 3.7±0.9 |
| – Relationship with Therapist | 4.6±1.0 | 4.7±1.1 |
| – Time limited* | 3.9±0.9 | 4.2±1.0 |

*$p<0.05$, Wilcoxon test for pair differences

PtQ, is considered to be the most appropriate.[19] The use of the above specific psychometric tests, which are popular and reliable instruments, makes the assessment approach valid. On the other hand the fact that PtQ allows the patient to quantify helpful factors of therapy is an excellent method for assessing therapeutic outcome.[18,20]

According to the results of the tests, i.e. BDI, STAI, MMPI, the patients showed a considerable improvement at the 2-month follow-up compared to pre-therapy evaluation. More important is that this improvement has been sustained at the 1-year follow-up. Especially, concerning MMPI the improvement was measured by the 2 corresponding anxiety scales of the MMPI, i.e. A, Mas, in congruence with other studies.[21] Also, a notable change appeared on scale Dy (Dependence) and Es (Ego strength). The latter scale is the best index of a positive change after treatment[22] and is usually incorporated as a measure into psychotherapy outcome studies.[19] Higher score after therapy means that the individual tends to be better psychologically adjusted and that he/she is more capable to cope with problems and stresses in life.[22] Furthermore, some patients, apart from a panic disorder, received an additional diagnosis of depressive disorders, whom depressive symptomatolgy has also been ameliorated, as it seen in D corresponding clinical scale and at BDI scores. Scale K of the MMPI is a validity scale measuring defensiveness but, in contrast to the other validity scale L of the test, it measures more subtle and mature defenses.[22] A higher score after psychotherapy –if this score does not exceed 60 for individuals of lower middle class and upper lower class,[22] as in the present study– is indicative of improvement reflecting better functioning, ego strength and psychological resources.[22] It is worthwhile to mention that the other validity scale (L) did not manifest significant differences between the pre and post-therapy assessment. It is also significant to refer that more than half of our patients had a concomitant personality disorder. Therefore, CAT may have benefited them not only concerning panic disorder, but mainly on personality. The results of the MMPI are validated by the results of the PtQ, where patients considered the new understanding more helpful, as well as the fact that therapy was time limited at the time of 1-year follow, up than at the 2-month follow-up, when probably some themes regarding separation had not been completely resolved.

In conclusion, the present study indicated that CAT is an effective therapeutic approach for patients with PD. The above findings are important especially nowadays that pharmacotherapy is considered to be the first choice of treatment for these patients. However, there are reports claiming the beneficial effect of psychotherapeutic interventions. For instance, in a recent meta-analysis of 124 studies, Mitte[23] supported that CBT was at least as effective as pharmacotherapy and, depending on the type of analysis, even significantly more effective. In addition, CAT treats PD in a short time while simultaneously inflicting beneficial changes to the personality structure, thus reducing the possibility of recurrence. It is worthwhile to note that more than half of the patients of the present study had an additional diagnosis of a personality disorder. Finally, another advantage could be the avoidance of the side effects of the drugs.

# Αξιολόγηση της αποτελεσματικότητας της γνωστικής-αναλυτικής ψυχοθεραπείας (ΓΑΨ) σε ασθενείς με διαταραχή πανικού

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Δύο κατηγορίες θεραπειών έχει αποδειχθεί ότι είναι αποτελεσματικές στην αντιμετώπιση της διαταραχής πανικού με ή χωρίς αγοραφοβία. Η μία αφορά τη φαρμακοθεραπεία με αντικαταθλιπτικά και βενζοδιαζεπίνες και η άλλη την ψυχοθεραπεία. Η παρούσα μελέτη στοχεύει στην αξιολόγηση της έκβασης της Γνωστικής Αναλυτικής Ψυχοθεραπείας (ΓΑΨ), ένας τύπος συνοπτικής ψυχοθεραπείας, σε ένα δείγμα 128 εξωτερικών ψυχιατρικών ασθενών με διάγνωση κατά DSM IV της διαταραχής πανικού, οι οποίοι απευθύνθηκαν στο Κέντρο Ψυχικής Υγείας Βορειοδυτικού Τομέα Θεσσαλονίκης. Για αυτόν το λόγο, χρησιμοποιήθηκαν δημοφιλή και αξιόπιστα ψυχομετρικά tests όπως το Minnesota Multiphasic Personality Inventory (MMPI), το Beck Depression Inventory (BDI), το State-Trait Anxiety Inventory (STAI) και το Post-therapy Questionnaire (PtQ). Οι ασθενείς αξιολογήθηκαν σε δύο follow-up, 2 μήνες και 1 έτος μετά τη λήξη θεραπείας. Τα αποτελέσματα έδειξαν ότι στο follow-up των 2 μηνών 78 ασθενείς παρουσίασαν στατιστικά σημαντική βελτίωση σε σύγκριση με προ της έναρξης θεραπείας, σε όλες εκτός από δύο (Mf, Ma) κλινικές κλίμακες του MMPI, στο σύνολό τους και σε μερικές ερευνητικές κλίμακες του MMPI, στο BDI και στα αποτελέσματα του STAI. Στο follow up του έτους, σύμφωνα με τα αποτελέσματα του MMPI, του BDI, του STAI και του PtQ, οι ασθενείς διατήρησαν την ήδη πραγματοποιηθείσα βελτίωση. Τα ανωτέρω αποτελέσματα δείχνουν ότι η ΓΑΨ είναι μια αποτελεσματική βραχεία ψυχοθεραπευτική παρέμβαση σε ασθενείς με διαταραχή πανικού.

**Λέξεις ευρετηρίου:** διαταραχή πανικού, γνωστική-αναλυτική ψυχοθεραπεία

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