

Effective treatments for generalized anxiety disorder.

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1- Abstract.

Both in applied research and in clinical practice it is common to have to evaluate the change experienced by patients as a result of their treatment.

This is a clinical experimental comparison study in which three therapeutic intervention techniques are discussed for the treatment of generalized anxiety disorder (GAD), with respect to a control group (CG). The first technique is based on cognitive behavioral therapy programs (CBT), the second one in the techniques of eye movement desensitization and reprocessing (EMDR), and the third one consisting in location techniques involving relevant eye position and the neural network activated to access to the particular spot where the problem is fixed in the brain (BSP). These therapeutic procedures were administered to a total of 59 patients with generalized anxiety disorder, assigned by a random procedure to the three treatment groups. 19 plus GAD patients remained in the waiting control group. The assessment of efficacy was performed using the follow up psychometric tests: State-Trait Anxiety Inventory. (STAI) of C.D. Spielberger, the Beck Anxiety Inventory (BAI) and the Subjective Units of Disturbance (SUDS). The results show that the three programs achieved a clinically significant change in this disorder in most people, resulting in a more effective new treatment approach of Brainspotting and the techniques of eye movement desensitization and reprocessing .

Keywords.

Generalized anxiety disorder. Treatment effectiveness. Clinically significant change. Cognitive behavioral therapy. Eye Movement Desensitization and Reprocessing. Brainspotting.

2- Introduction

During the last years there have been significant three advances in the field of mental disorders. First of all, great deal has been achieved in the understanding of biological and neurophysiological basis of many medical conditions. Secondly, a new generation of psychoactive drugs has been developed (antidepressants and neuroleptic drugs particularly) associated with a better favourable side effect profile. Thirdly, psychological short term and effective treatments have been developed for a wide variety of disorders. However, disclosure of three developments has not been symmetrical. In the first two cases, pharmaceutical companies were mainly focused on widespread dissemination through free publications and sponsored congresses. On the other hand, in the third case -the development of psychological therapeutics based on neurology-, the impressive progress achieved has been limited to scientific journals or professional meetings that have barely reached to the professional services involved in the clinical practice. What is more, the scope of what is really

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important among how much is published is at times obscured because there are too many journals and hardly a minimum percentage about everything that gets published has clinical relevance. Progress in the development of psychological therapies has not been reflected in the regular clinical practice, not even in the formative contents of clinical psychological programs, psychotherapy or psychiatry. Universities, Spanish ones in particular, are marked by inertia to repeat over and over again the same contents, irrespective of the theoretical-technical progresses, because simply, professor, is rarely a clinician.

The evaluation of the effectiveness of therapeutic interventions is a peremptory need, because the scientific advance of efficient therapies requires delimitation of efficient therapies as well as active components thereof. Ultimately, what we are looking for is a clinical psychology based on evidence. Many psychotherapists do not update the information, either because they have access to it or because they are resistant to change their traditional methods. This essay seeks to evaluate effective treatments for a particular disorder with clinical sample clearly specified. As far as possible the appropriate requirements are followed in clinical trials on the effectiveness of treatments (Seligman, 1995):

- Random assignment of patients to the experimental and control conditions.
- Detailed evaluation in accordance with diagnostic criteria of DSM-5.
- Blind evaluators in testing.
- Concurrent and prospective clinical essay.
- Exclusion of patients with multiple disorders.
- Clearly standardized treatment.
- Fixing of treatment timing
- Follow up.

Generalized Anxiety Disorder –from now on GAD- as referred to in prevalence studies, is a very common disorder, with a prevalence of 7.9% according to the World Health Organization (W.H.O.) as an exclusive diagnose and with global incidence of about 25% in medical centers as exclusive or comorbid diagnose (DSM-5, 2014). Moreover, relevancy of GAD study and the elaboration of possible and better treatments to overcome it, is particularly important if we consider that today's lifestyle with constant stressors, this pathology seems to increase in advanced societies, and that possibilities for personal and/or professional development are reduced if anxiety grips patient's lives.

Therapeutic programs used for GAD's treatment include more than one technique or procedure of intervention. Programs applied in this study can be classified in three large categories:

- Treatments based essentially on behavioral strategies with emphasizing on cognitive factors (CBT).
- Treatments based in adaptive processing model of the information (EMDR).
- Treatments based neuroprocessing techniques which attend focused activation in Brainspots on in the visual field and mindfulness focused in a context of dual tuning, this is Brainspotting technique (BSP).

3- Methodology.

3.1.- Sample and selection procedure.

Clinical variables. The patients participations in this investigation to a consultant psychologists and psychiatrists offices between years 2013 and 2014. Therefore, the study is based on patients demanding treatment and not in patients searched for investigation purposes. Sample of patients with generalized anxiety disorder was selected to become part of this present study according to a number of requirements. These imply complying with diagnosis criteria F41.1 (300.22) Generalized anxiety disorder according to the Diagnostic and Statistical Manual of Mental Disorders DSM-5 (APA, 2014), and least two evaluators issuing same diagnosis. Patients with multiple pathology were excluded.

Available sample of participating patients suffering GAD and from which data were obtained in this study consisted of 78 people living in the province of Alicante (Spain), of whom 25,6% were from other provinces in Spain and 8,9% were of EU origin. From them, 51 (65.4%) were women and 27 (34.6%) were male, ages between 20 and 59 years (mean = 34, SD = 11.99). Predominated occupation level were individuals with university studies (51%), although there were also participants with no but also included people with no university degrees (27%) and, to a lesser extent, students (10%), housewives or unemployed person (12%). The 78 patients were randomly distributed to four groups, three for treatment and one control wait group. Patients who abandoned treatment or did not comply with psychometrics were excluded (data showed in Table 1).

3.2.- Therapeutic programs of intervention.

Treatment variables. In this investigation the three programs quoted earlier for GAD treatment have been applied.

Programs of cognitive behavioral therapy, essentially applied therapeutic strategies below listed. CBT for generalized anxiety disorder of Butler et al. (1991) and Borkovec et al. (1987). One of the strategies was the gradual exposure, based on systematic desensitization, which was implemented in patients with anxiogenics spots emerging during therapeutic evaluation. A modified version of the thought detention technique was applied (Capafons, 1992) with persistent cognitions favoring anticipatory anxiety. Patients were trained with relaxation techniques. Besides the therapeutic package was completed with reatribucional training and problem solving, based on the combination of different features from cognitive-behavioral therapy field, such as attribution theories (Heider, 1958). In some patients training was use in handling anxiety, EMA (Suinn, 1993). Cognitive restructuring was applied for dysfunctional beliefs. Although cognitive restructuring is varied in its implementation, in accordance with the most widespread interventions, it could be said that, once cognitive elements are identified, "the aim is being able to help patient to modify them, with the purpose of making his environment functioning more adaptive and nice " (Buena-Casal, Sierra, & Vera-Villaruel, 2001). Strategies to achieve this are different according to cognitive intervention; However, usually these training following phases are followed: (1) help patients to establish relationships between his cognition, his emotion and his behavior; (2) help the patient to identify the most dysfunctional or irrational thoughts, or his most disadaptative cognitive processes (for example, pick up his must disruptives, his dichotomous thought, his arbitrary inferences, his selective abstractions, his maximizations, etc.); and (3) modify these cognitions by means of various methods, (for example, logic and empirical checks, reattributions of causes and responsibilities, alternative conceptualizations, pushing ad absurdum held ideas, etc.) or through behavioral

procedures (such as exposure, homework, role-playing, reinforcements and punishments, etc.) (Martin & Pear, 2008).

Programs based on EMDR are well-founded on doctor's Francine Shapiro proposals. This therapy is based on physiological methods of reprocessing of the experiences that have been shown to be useful in the treatment of blocked neurophysiological experiences. EMDR integrates elements from main psychological currents, as the free association of psychoanalysis, identification of dysfunctional beliefs and self-control techniques of cognitivism, the method that focuses on the patients of experiential therapies and use of protocols that pay attention to the stimuli and responses inherent to behaviorism. Initially EMDR was applied to PTSD and progressive extension to other psychopathology, among them in GAD. Such technique focuses on the desensitization of anxiety and leads to a new paradigm that considers information processing and associative networks such as vertebral process of the technique. Furthermore, approaches the existence of an inherent system in all people which is physiologically prepared to process information until this brings to an adaptive resolution. This resolution is a mental health state which implies that negative emotions are deleted and makes that information be integrated in future. Application on GAD is based on the assumption that large portion of psychopathology showing this clinical chart is based on past experiences. These past events can be denominated as a trauma with small t (Shapiro, 2001) and exert a long lasting effect in the being and in the psyche. They are also conceptualized as events encoding feelings and emotions and negative feelings that arise spontaneously when they are denoted by current conditions. Also the concept of evolutionary trauma (Hensley, 2009) explains how events produced over live affect gradually and alter neurological system of patients with GAD.

Standardized procedure of 11 steps is applied: 1-image, 2-negative cognition, 3-positive cognition, 4-level of validity of cognition, 5-emotion, 6-level subjective units of disturbance, 7-localization of body sensations, 8-desensitization, 9- installation 10-body scan, 11 closure.

Brainspotting (BSP) is a treatment approach which proposes that visual field useful to locate relevant eye positions which correlate significantly with neural, physiological and emotional experience. Once these eye positions or Brainspots are located, the patient is led to observe uncritically his own internal process such as occurs in his emotional, mnemonic or cognitive aspects and sense felt. This self-observation is focused mindfulness of full consciousness. The therapeutic approach seems to enable to access to issues deeply stored in the non-verbal, non-cognitive areas of the brain. BSP uses activation focused in brain and body as much as full conscience (mindfulness) as mechanisms of intervention.

BSP is a model that can target both in the activation related with the painful problem as systemic positive resources that the patient already has. The BSP model is the result of a dual tuning approach: tuning in the relation with the patient and neurological tuning, similar to the interpersonal neurobiology model (Siegel, 2010) with an acceptance basis of internal processes such as they are. BSP is oriented to physiological experience lived through the body. Integrates the basic principles of non-assumption model (observe all, assume nothing), body resource (taken from Somatic Experiencing, Levine, 1997), eye relevant position and auditory bilateral soft stimulation (Grand, 2002).

Different formulas were applied to locate relevant eye position: 1-BSP of external window, 2-BSP of internal window, 3-BSP with one eye, 4-Resource Model of BSP, 5-Gazespotting, 6- BSP Z axis. Predominantly BSP of internal window, in Z axis and with one eye were used for patients with GAD, because they were shown to be more effective for patients with the treated condition.

The three programs share the following common elements:

- (A) 12 sessions (± 4) were available to carry the corresponding treatment, plus one "zero" session in the beginning where gross aspects of the therapeutic program were exposed.
- (B) The therapy was individual.
- (C) Evaluations pre-treatment, post-treatment and follow-up at 6 months.
- (D) Therapists had similar training and clinical experience.
- (E) The patients had not received previous treatment for this condition.
- (F) When the patient dropped out of treatment for personal reasons or was not respond to questionnaires predetermined by therapists, the case was consigned as abandoned, and was not no statistically processed to analyze treatment effect. This is contained in N (number of cases) of table later exposed.

3.3.- Measuring instruments.

Measuring instruments allows us to estimate when a Significant Clinically Change is produce when implementing the different therapeutic strategies (see Bergin & Lambert, 1978; Ogles et al, 2001). In recent years the increasing interest is accentuated by making this estimate based on information collected through questionnaires or scales (results provided by patient). This interest has been reflected in the emergence of many and very diverse methods designed with the intention of being able to apply individual responses for being able to determine when a Significant Clinically Change (see occurs Crosby et al., 2003;. Turner et al, 2010).

To evaluate GAD three measurement instruments of were applied: State- Trait Anxiety Inventory (STAI), Beck Anxiety Inventory (BAI) and the Subjective Units of Disturbance scale (SUD).

State- Trait Anxiety Inventory of Spielberger CD, Gorsuch RL and RE Lushore comprises separate scales of self-assessment which measure two independent concepts of anxiety, as state (S) and trait (T). STAI's have proved to be useful to measure both concepts in patients from diverse clinical groups. In accordance with its authors state anxiety (A/S) is conceptualized as a temporary emotional state or condition of the human organism characterized by consciously perceived, tension and apprehension, subjective feelings as well as hyperactivity of the autonomic nervous system. It can vary over time and fluctuate in intensity.

Anxiety Trait (A/T) indicates a relatively stable anxious propensity through which individuals differ in their tendency to perceive and to elevate consequently his anxiety state (A/S). As a psychological concept, the A/T has similar characteristics as the constructs which Atkinson name "reasons" (those provisions that stay latent until they are activated by some situation stimuli), and which Campbell allude as "acquired behavioral dispositions" (wastes from previous experiences that predispose to see the world in a certain way as well as to manifest response tendencies linked to the object).

Individuals with higher A/T will show a greater A/S than individuals with lower A/T, because high A/T predisposes to see many more threatening situations. The fact that people who differ in A/T show a corresponding differences in A/S depends on the degree in which an specific situation is perceived by a determined individual as dangerous or threatening, and this is strongly influenced by particular past experiences.

The STAI has shown useful in clinical practice. Requires of a minimum time application and self-application is possible with basic supervision.

The subscale A/S is used to determine current intensity levels of anxiety. The variable A/T shows subjects with different answer willingness to psychological stress with an intensity level of the A/S.

A reliability analysis was performed using Cronbach's alpha (0.90 for trait anxiety and 0.94 state anxiety). In general it is observed that the STAI maintains appropriated metric properties and also has been sensitive to increased environmental stimuli which produce stress, as well as changes due to treatments. Statistical justification, reliability, validity can be found in questionnaire's manual.

Beck Anxiety Inventory, BAI Beck, AT; Brown, G .; Epstein, N. Steer, R.A. (1988), was the second psychometric device used for its broad dissemination. It is about a self-applied questionnaire composed of 21 items, wherein diverse anxiety symptoms show up, which were extracted from an initial set of 86 items from the questionnaires: "The Anxiety Checklist" (ACL; Beck, Steer and Brown, 1985), "The Physician's Desk Reference Checklist" (PDR; Beck, 1978) and "Situational Anxiety Checklist" (SAC; Beck, 1982).

It is primarily focused on the physical aspects related to anxiety, which makes him a questionnaire that physiological component is over-represented. It is easy to apply, in which patient must point in each of the anxiety symptoms, the degree in which these affect him during the last week and at the present time. To this end, he must choose between the following responses the one which better fits with intensity of the symptoms: (0) At all (1) Slightly, it does not bother me much. (2) Moderately, it was very unpleasant but I was able to tolerate it. (3) Severely, I almost could not stand it.

It is a tool chosen instrument because of its psychometric properties. It possess a high internal consistency (Cronbach's alpha from 0.90 to 0.94). The correlation of the items with the total score ranges between 0.30 and 0.71. The test-retest reliability after one week is between 0.67 to 0.93 and 0.62 after 7 weeks. It has good correlation with other anxiety measures in different types of populations. The coefficients of correlation (r) with the Hamilton Anxiety Scale is 0.51, with the State- Trait Anxiety Inventory from 0.47 to 0.58 and with the anxiety subscale of SCL-90-R is 0.81. It is shown sensitive to change after treatment and that is why it is useful to measure changes in patients after the implementation of therapeutic programs.

This questionnaire's analysis allowed articulating variables among the items themselves. Thus two main factors found: somatic symptoms and anxiety subjective symptoms, being obtainable two subscales. Subsequently Beck himself described four factors: subjective, neurophysiological, autonomic and panic. In turn Steer in 1993 when computationally implement this inventory, identified a somatic and a subjective variable. However, many of the classified items in each group were not exactly corresponding with ones found by Beck, thus we would only consider global direct test's results in our analysis.

Finally, not being this psychometric questionnaire, for its widespread use in the continuous evaluation of therapeutic progress, both in systematic desensitization, in EMDR and BSP, we use Subjective Units of Disturbance measures (SUD). When the patient identifies the anxiety focal point, he is then answered to assign a value in SUD scale for this focal point. He is asked to position in a Likert scale from 0 to 10, in which 0 represents that there is no disturbance at all, and in which 10 means the highest possible degree of disturbance. SUD scale derived from the Subjective Units of Discomfort Scale, SUDS, which Wolpe development as a means of communication between therapist and patient and referred to the magnitude of the patient's

response before provoking stimuli of fear-anxiety. It has been widely used in systematic desensitization. All measures to assess anxiety are the most transient, also the less reliable from a psychometric point of view.

4- Results

Tests of statistical significance facilitate inform about the likelihood that the difference obtained be or not significant. Thus, if the value of probability $p_{ESTIMATED}$ is equal or minor than 0.05, it is concluded that the probability that the obtained result is by chance very low, and thus is rejected null hypothesis of no differences between measurements.

The variables sex, age and source in relation with therapeutic effects measured in psychometric tests were analyzed. The Chi-square χ^2 test with $p < 0.05$, no found relationship between sex, age, source and extent of the therapeutic effects. There were no significant differences between age and size of the therapeutic effect. Younger patients, regardless of gender, show better results in psychometrics in the three treatment programs. The psychometric ratings pre-post-treatment and follow-up were slightly higher in females, but were not statistically significant. In STAI's analysis it is observed that one item shows differential functioning by sex, what introduces a partial bias. To a better understanding of the ground of bias in the response of men and women it is necessary to analyze the content of the item. The issue raised in the questionnaire is "I feel like mourn," in this case seems logical to think that, even though men and women are practically matched in anxiety level, men are more likely to score almost never want to feel mourn. Meanwhile, women have a more balanced response in the different alternatives, which explains the differential found.

The number of sessions was similar as fixed in the methodological structure of the research, being CBT the highest number of sessions offered to their patients, followed by BSP and EMDR. These differences were not statistically significant that blocks comparison between the three techniques.

For comparison of the three groups of treatment between themselves and with the control group, a series of covariance analysis were taken as dependent variables scores on the scales State- Trait Anxiety Inventory (STAI), Beck Anxiety Inventory (BAI) and the Subjective Units of Disturbance scale (SUD) measures after treatment and in the follow up six months after treatment and as covariates, the scores of these save variables collected before applying the treatments ended scores as covariates in these same variables collected before applying the treatments. As independent variable it was taken the treatment groups.

For the explanation of the therapeutic effects and thereby to derive predictions about their effectiveness, research has to perform checking hypotheses translating scientific hypothesis to statistical hypothesis.

Some authors liked as Schmidt (1996) suggest that the statistical contrast is unnecessary, recommends to focus on the estimation of the size of the effect. The size of the effect is an index in a common metrics which indicates the magnitude of a relation or effect (Cohen, 1988).

For our analysis and an efficient practice based on evidence it is useful to know the size of the effect of treatments: CBT, EMDR, BSP. Statistical measure that quantifies the relationship among variables, or the differences between groups that we use is the Cohen's d. The Cohen's d is a measurement of the effect size as a difference in standardized averages. That is to say, it informs us of how many typical deviations of differences that are among results of the two groups compared (experimental group and control group, or the same group before and after the intervention). This is widespread measure in which the effect size is calculated by subtracting the average obtained by

the experimental group minus the mean of the control group and dividing the result by the standard deviation of the population belonging to both groups. It can be considered that the Cohen's *d* represents the number of typical deviations that separate groups. Cohen gave some references to interpret the magnitude of the effect sizes:

$d = 0.20$: small effect size.

$d = 0.50$: medium effect size

$d = 0.80$: large effect size.

Thus by statistical analysis it is found that the results indicate that the three treatment programs are effective for generalized anxiety disorder because the effect size almost always great, according to Cohen's own coding.

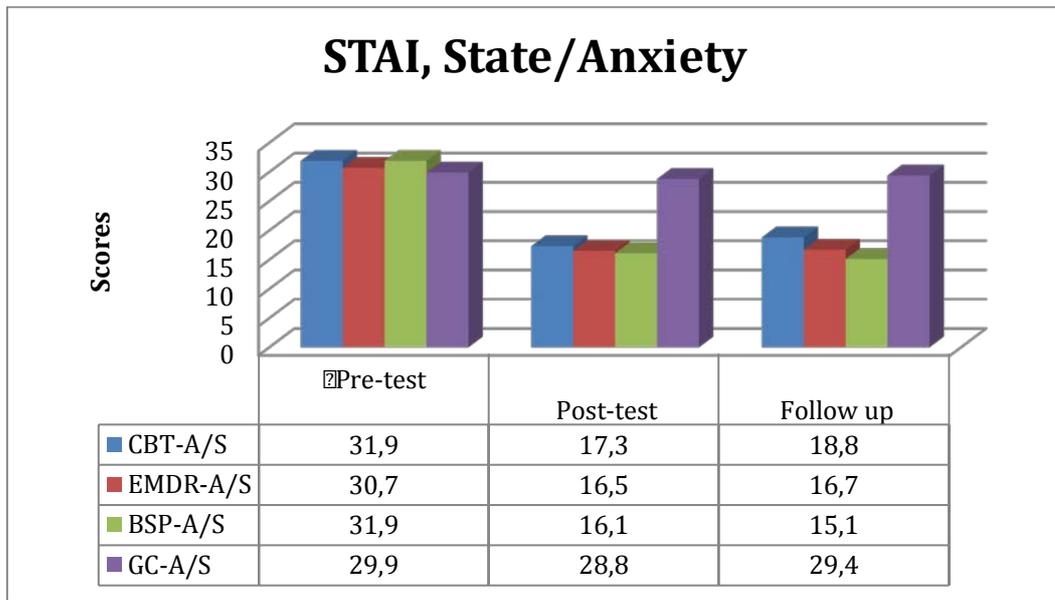
TABLE 1. Direct psychometric media scoring, standard deviation, size of sample of all measurements by group intervention and time when the measurements were taken.

Measure	Group	Pre-test			Post-test			Follow-up		
		Average score	(SD)	N	Average score	(SD)	N	Average score	(SD)	N
STAI A/S	CBT	31,9	(11.1)	21	17.3	(10.2)	21	18,9	(10.1)	21
	EMDR	30,7	(9.8)	19	16.5	(10.9)	19	16,7	(11.5)	19
	BSP	31,9	(10.5)	19	16.1	(12.2)	19	15,1	(12.5)	19
	CG	28,9	(10.3)	19	27.8	(9.2)	19	29,4	(10.3)	19
STAI A/T	CBT	30,1	(10.9)	21	20.9	(10.1)	21	21.5	(10.5)	21
	EMDR	29	(10.5)	19	15.2	(8.2)	19	15.1	(11.5)	19
	BSP	31,5	(10.4)	19	14.2	(12.5)	19	9.2	(14.1)	19
	CG	27,9	(10.5)	19	27.5	(10.2)	19	27.6	(10.9)	19
INV. BECK	CBT	29,9	(15.5)	21	14.8	(13.2)	21	15.9	(18.5)	21
	EMDR	30,3	(14.2)	19	13.2	(14.2)	19	13.0	(15.4)	19
	BSP	31,7	(14.4)	19	12,8	(11.0)	19	9,7	(17.1)	19
	CG	25,6	(13.5)	19	24.4	(15.2)	19	25.9	(14.3)	19
SUD Global	CBT	7,3	(2.1)	21	3.1	(1.9)	21	3.2	(2.1)	21
	EMDR	7,1	(2.3)	19	2.5	(2.1)	19	2.3	(1.6)	19
	BSP	7,9	(2.2)	19	2.3	(1.6)	19	1,8	(1.4)	19
	CG	6,3	(2.4)	19	6.4	(2.1)	19	6.1	(2.3)	19

However, clinically significant effects vary among the three treatment programs. In subsequent graphics, data are analyzed in a differentially way in view of the psychometric scores obtained.

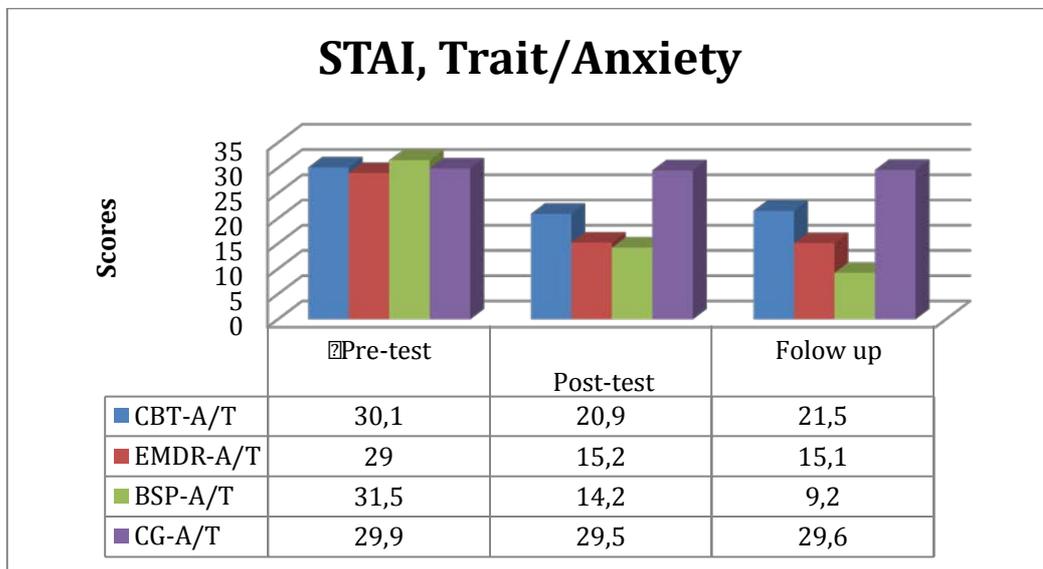
In the following four charts of columns scores obtained by patients with GAD are shown, in each psychometrics by chart, obtaining scores for each intervention group (CBT, EMDR, BSP, GC) and in three measurement moments (pre -test, post-test, follow-up).

Graphic 1.



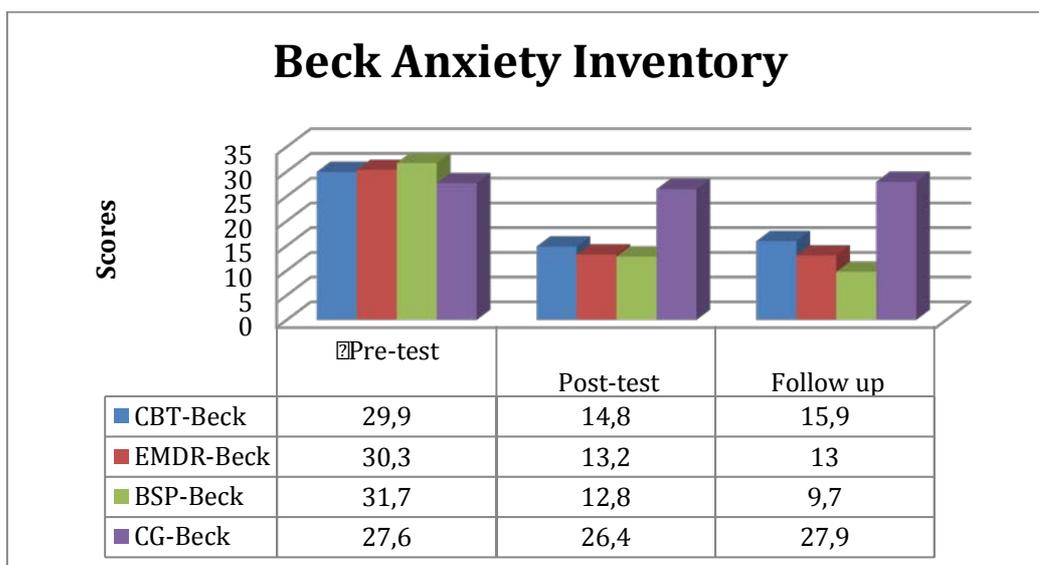
The effectiveness of the three treatment programs to measure anxiety state with similar scores after treatment is appreciated, but they differentiate in the follow up, being the advances obtained by BSP and EMDR more stable than the ones obtained by CBT. Control group do not get better.

Graphic 2.



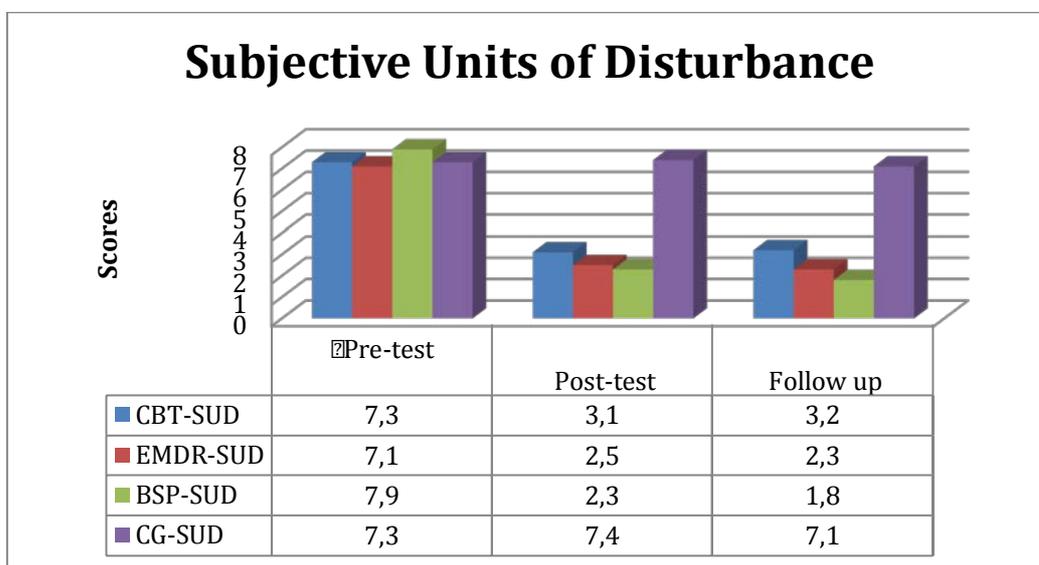
In trait anxiety differences among in efficacy in treatments are shown, being in the post-test BSP and EMDR more effective than CBT. In a follow up scores an unusual fact is show; patients treated with BSP continued getting better in time without treatment as shown in their scores in the six months follow up.

Graphic 3.



Efficacy of the three therapeutic programs is appreciated when measure scores with Beck. Direct similar scores are obtained in the post-test in the three treatment programs, but differ in follow up, being broader the achievements obtained in BSP, after with EMDR, with a slight symptomatic increasing in the group treated with CBT. Control group patients do not get better.

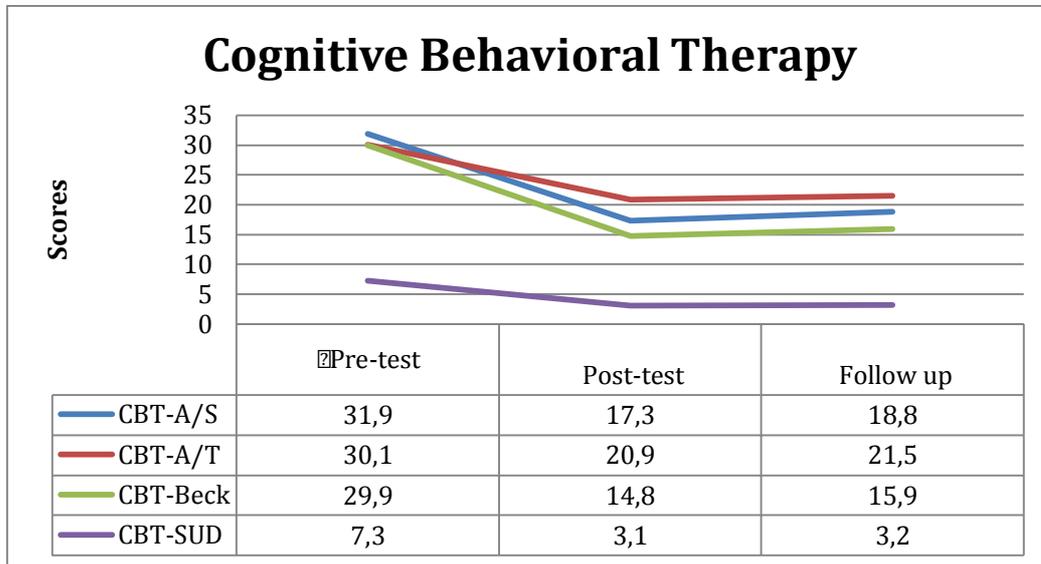
Graphic 4.



The effectiveness of the three treatment programs to measure the SUD with scores that show therapeutic efficacy after treatment, but differ in follow up, appreciating an improvement in the group treated with BSP and scores increased slightly CBT group. As in the previous psychometric patients in the control group do not get better.

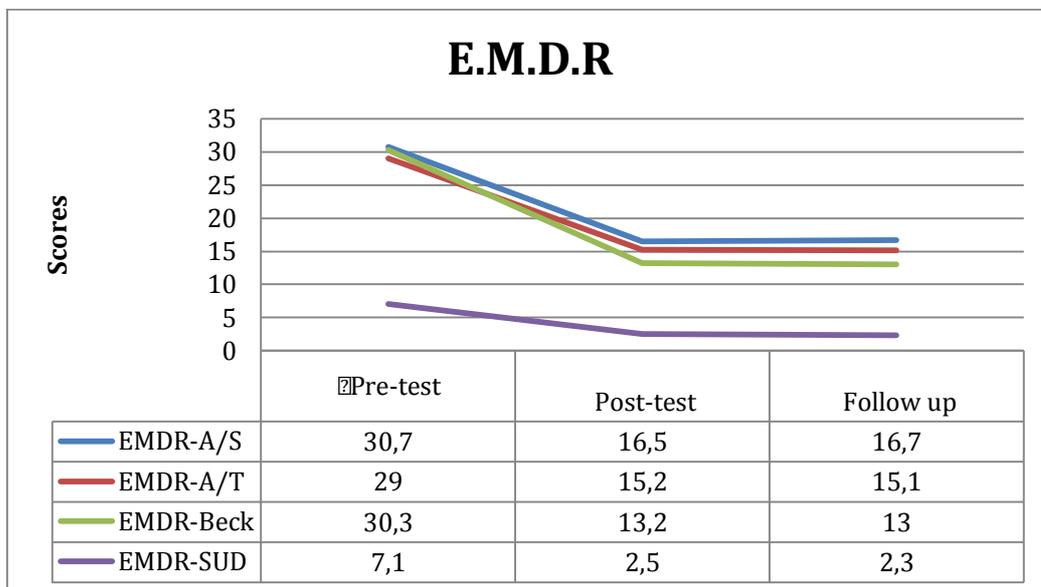
In the following line graphics, by each therapeutic technique used, patients with GAD scores are appreciated in the four psychometrics and the three measuring moments.

Graphic 5.



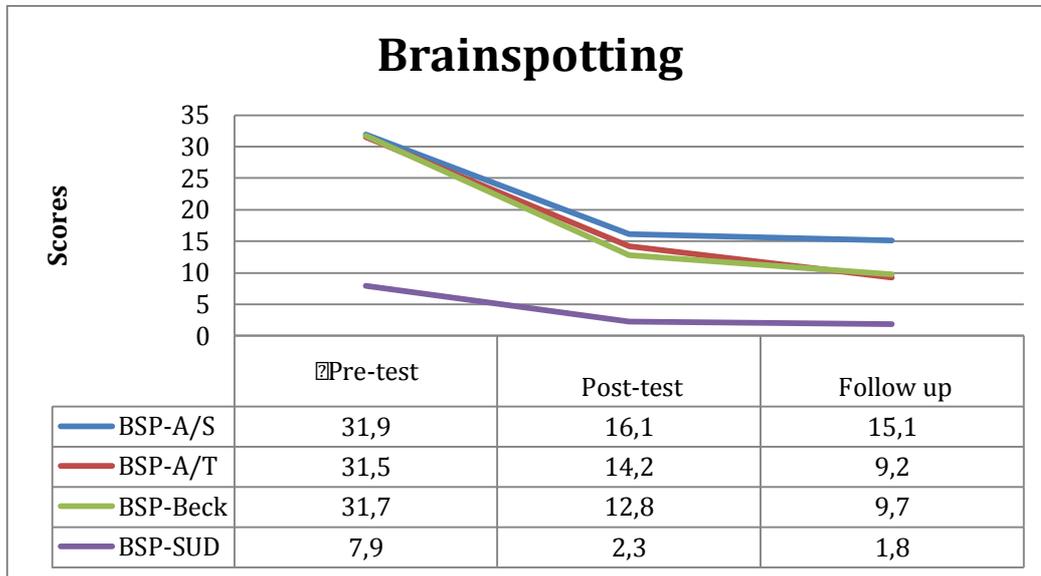
In CBT improvement seen in all four measures of anxiety after treatment, with mild symptomatic anxiety spikes in the follow up.

Graphic 6.



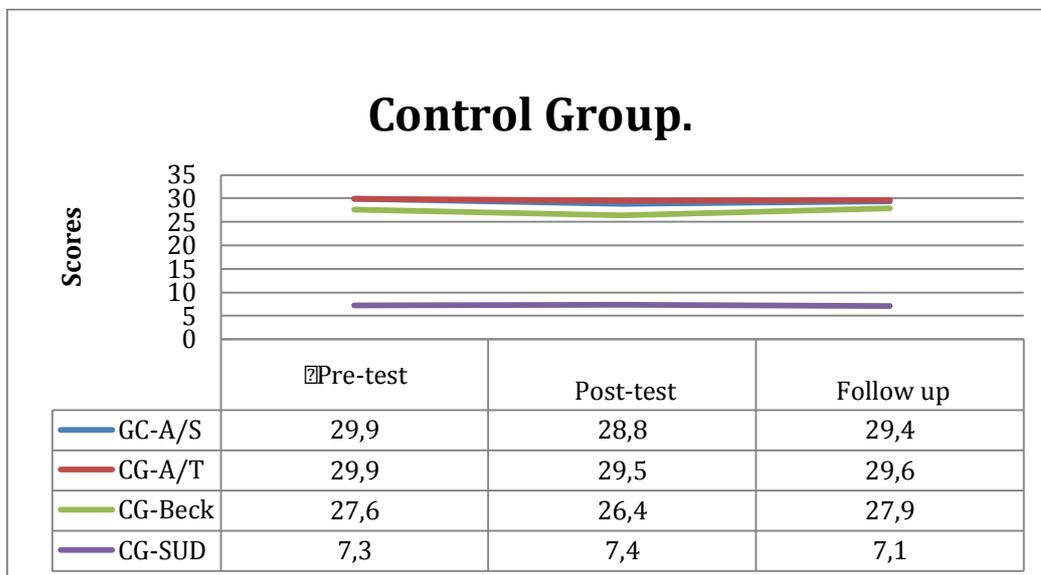
The therapeutic program based on EMDR achieves significant improvements after treatment and maintained at the follow-up.

Graphic 7.



BSP achieved to improved significantly the scores on the post-test, but emphasize that scores in the follow up even lower more shows clinical improvement even after treatment is finished.

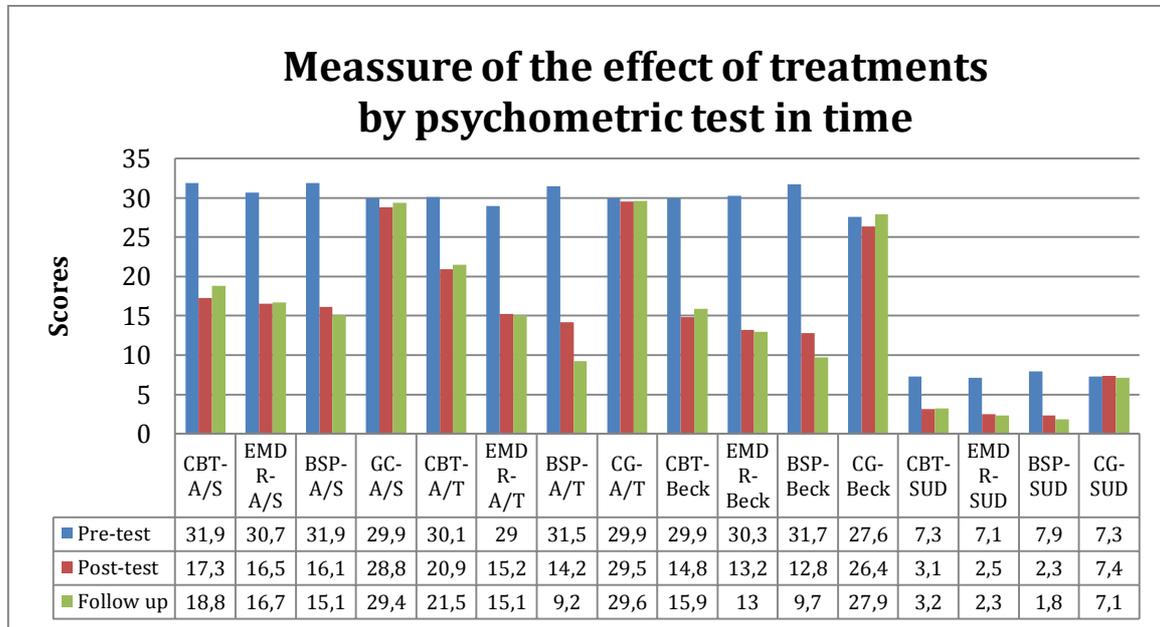
Graphic 8.



Patients in control wait group had better not expect the psychometric scores over time.

This last chart of column combines all the measurements of the effects of treatments by each psychometric test in different moments of evaluation.

Graphic 9.



The graphic shows that patients untreated do not get better. With CBT patients with GAD get better after treatment and maintain therapeutic achievements in the follow up with a slight symptomatic rebound measured in psychometrics. Patients treated with EMDR improve more than those treated with CBT and keep achievements in the follow up. Finally, patients treated with BSP, improved more than those treated with EMDR and CBT in the post-treatment and continued to improve on psychometric evaluated in the follow up.

5- Discussion.

In applied investigation and clinical practice it is usual to have to evaluate the change experienced by patients as a result of the treatment received. The quantification of this change has a crucial importance for being able to correctly estimate the effect of the implemented treatments. The methods traditionally used to assess the effect of treatment (significance testing and hypothesis contrasts) provide very useful information, but not necessarily informed about the importance of the evaluated effect. The measures of the size of the effect try to indicate that the bigger the observed effect is the most likely to correspond with a clinically significant change; but since such measures depend on the variability of the analyzed scores, a large effect not necessarily correspond to a significant effect (Jacobson, Roberts, Berns and McGlinchey, 1999; Kazdin, 1999, 2001).

This limitation in statistical tools, traditionally used to assess the effect of therapeutical programs has made that the interest of therapists and researchers applied has been displaced from statistical significance to clinical significance (see Kazdin, 1977; Kendall, 1997, 1999; Ogles, Lunnen and Bonesteel, 2001).

The statistical significance of an investigation is not equivalent to the clinical significance. In the psychological field, the clinical significance is often associated with the concept of clinically significant change. In this context, the clinical significance refers to "the practical importance of the effect of an intervention, that is to say, if an intervention produces any real difference in the clients or people who interact with them in their daily lives" (Kazdin, 2001, p. 455).

In this investigation we find that a clinically significant change has been produced because two criteria were complied with: the change is statistically reliable and clinically relevant. We estimate the average effect sizes individual. As stated, Cohen (1988) it has proposed a rule that is often used as a guide to assess the difference between two means: values around 0.20 indicate a mild effect, around 0.50 a moderate effect and about 0.80 an large effect. Thus, the three treatments presented levels of significant changes in anxiety psychometric after treatment and in the follow up. Likewise clinically significant change is also shown against wait control group.

The most studied treatment CBT has not shown a superior change level to EMDR neither to BSP. These results indicate that the three treatments can be effective to treat GAD. CBT as well established treatment again shows its effectiveness. EMDR as a possibly efficient treatment en GAD appears as an alternative as valid or more than CBT. BSP as more advanced treatment and recent incorporation to clinical practice, but still in experimental phase, has shown efficacy in clinical said, with surprising results regarding results in psychometric evaluations an in the follow up.

As shown in the graphs, the three treatment groups are significantly distanced from the control group.

Among treatment groups there are clinical differences regarding treatment efficacy. Therapies based reprocessing with neurobiological underpinnings are shown to be more effective than the classical cognitive behavioral therapy. There is no significant difference statistic between EMDR and BSP in the post-treatment analysis. A significant difference of BSP with respect to CBT and EMDR in the follow up psychometric analysis after six months of finalized treatment is appreciated.

The detailed analysis of the clinical data, indicates that in patients treated with BSP and within the frame of this approach, deeper progression as continued improve in reducing their anxiety symptoms after finalizing treatment. BSP, as a neurobiological tool serves spatially to the ability of the brain to be scanned itself and the body. The data indicate that it could processed and liberate deeper brain areas which could explain the scores obtained in the STAI questionnaire for variable anxiety / trait and in the follow up psychometrics. It seems that the conscience of bodily sensations, the felt sense (in terms of Eugene Gendlin), allows access to processes not only involved in the limbic system, also accessing to deeper areas in our brain as spinal cord.

Confirmation of the change significance is not only for the subsequent effect in the subject restructuring, but also shown useful the confirmation in the clinical act and of follow up measurable to the effect of the enable the establishment and verification of the same beyond the activity of subjective interpretation of the therapist. Even though a exhaustive analysis of this data is the purpose of another article, still can be added that patients treated with BSP obtained the best therapeutic results, that EMDR is not only useful in traumatized patients and CBT, remains useful, although its results are underneath the new approaches of a neurobiological psychotherapy.

This research opens a series of doors for inquiry the best possible treatment for generalized anxiety. With the preliminary data from this clinical experimental study, treatments based on the restoration of altered neurophysiology, either through of the adaptive information processing system or

through brain processes integration by means of focused full consciousness, show more favorable results in magnitude of therapeutical effect and its consolidation in the long run. With these results and the subsequent study of success predictors it is possible to structure in the future a program of wide spectrum that can be effective with a high percentage of patients, and in the same time be able to design more specific programs which try to be effective and efficient where the prevailing model shown more limited results.

6- Conclusions.

It must be regarded the value of the estimation of effect size must be interpreted in the context of this trial and this clinical essay and in this particular area of research, being that the size of the therapeutic effect corroborated in this sample of patients with GAD can be great importance in an evidence-based intervention into clinical practice,

Advances in psychological treatments in the last years have been significant. The extension of the same in clinical practice based on efficacy therapeutic is limited. It is no longer maintain before the progressive clinical evidence a politically correct ecumenism in which all therapies are identical or similar effective. New advances in neuroscience and its implementation through specific techniques (among others, EMDR, BSP and brain integration techniques) allow that a therapeutical impact exists because of a clinical psychology based on the evidence. More studies, which optimize the effectiveness and efficiency of empirical validated therapies, are still needed.

EMDR and BSP therapy are approach models highly effective for solving the generalized anxiety disorder and not only for PTSD. The data from this experimental clinical essay suggest that they must be considered as therapies of choice for management of GAD in addition to CBT, given that better results were obtained with BSP and EMDR than with CBT. Both neurobiological and brain processing techniques, provide patients a restructuring of the experiences and contextualize of the same, until these are perceived in a positively or neutrally way, what allow the individual an assimilation and production of future adaptive responses.

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