

CLINICAL USEFULNESS OF COGNITIVE-BEHAVIOURAL TREATMENTS FOR PSYCHOLOGICAL DISORDERS CAUSED BY TERRORIST ATTACKS WITH HIGH VICTIM RATES

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Authors' Note: This chapter is an amended version of the article “Tratamiento psicológico de los trastornos por estrés derivados de los atentados del 11-M: de la psicología clínica basada en la evidencia a la práctica profesional” (“Psychological treatment of stress disorders caused by the 3/11 terrorist attacks: From evidence-based clinical psychology to professional practice”), written by the author and Laura Romero Colino and published in *Clinica y Salud* (vol. 15, no. 3, pp 355–385, 2004).

Abstract: *The purpose of this study is to assess the clinical usefulness of cognitive-behavioural therapies recommended for psychological disorders triggered by mass terrorist attacks and other catastrophes, and dealing specifically with acute stress and posttraumatic stress disorders. Forty patients including 39 adults (27 females and 12 males) ages 20–54, and an 11-year old boy, were individually treated at the Clinic between 15 March and 5 November 2004 after terrorist attack in Madrid on March 11, 2004. Our study proved, that multicomponent interventions based on therapeutic techniques which have been recommended by guidelines for treatment of stress disorders (anxiety control, exposure and cognitive restructuring techniques) are useful for clinical practice dealing with individuals with psychological problems and disorders triggered by mass terrorist attacks.*

Keywords: *Cognitive-behavioral therapy KBT, mass terrorist attack, multicomponent intervention, psychological disorder, acute stress, posttraumatic stress disorder, psychological treatment*

Following a terrorist attack with a high victim rates such as, for example, the attacks of 19 April 1995 in Oklahoma, 11 September 2001 (9/11) in New York and

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Washington, or 11 March 2004 (3/11) in Madrid, research suggests the occurrence of light and moderate psychopathological reactions in a considerable number of individuals including, not only direct victims, their relatives, professionals and volunteers who helped them, but also many people who live in a widespread area surrounding the place where tragedy struck. A smaller number, yet certainly significant and relevant, of severe reactions were also detected (Galea, Nandi & Vlahov, 2005; García-Vera & Sanz, 2008). For instance, one or two weeks after the 3/11 attacks in Madrid, 15% of Madrid's population suffered acute stress symptoms that affected their ability to cope in life (Muñoz et al., 2004). Only three months later, only 2% of the population displayed a posttraumatic stress disorder triggered by the 3/11 attacks (Miguel-Tobal et al., 2004; Vázquez, Pérez-Sales & Matt, 2004). This percentage, even though smaller, contrasts with the one-year prevalence of posttraumatic stress disorder in Spain, which is estimated around 0.5% (Haro et al., 2006). Needless to say, the psychopathological consequences were much greater for the wounded, relatives and friends of the dead and wounded in the 3/11 attack. It is estimated that, three months after the strikes, the posttraumatic stress disorder could have affected approximately 41%–44% of the wounded and 28%–34% of relatives and friends of the dead and wounded (Fraguas et al., 2006; Gabriel et al., 2007; Iruarrizaga et al., 2004; Miguel-Tobal et al., 2004). On the other hand, psychopathological reactions triggered by a mass terrorist attack are not limited to acute stress and posttraumatic stress disorders, as they also include other mental disorders such as, for example, major depressive disorder (MDD), agoraphobia, generalized anxiety disorder (GAD), or the excessive consumption of alcohol, legal and illegal drugs (Gabriel et al., 2007; Iruarrizaga et al., 2004; Miguel-Tobal et al., 2004).

Psychological treatments for said disorders are currently available that are empirically endorsed for their level of efficacy. Thus, for example, both the narrative reviews of efficacy studies (Creamer, 2000; Foa, Keane & Friedman, 2000; Lohr, Hooke, Gist & Tolin, 2003) and treatment/clinical practice guidelines prepared by different expert consensus panels – including guidelines issued by highly prestigious scientific societies such as UK National Institute for Clinical Excellence (NICE), the American Psychiatric Association, the American Psychological Association, the International Society for Traumatic Stress Studies (ISTSS), or the group of experts on disaster-related mental health gathered together by the US National Institute for Mental Health (NIMH) (American Psychiatric Association, 2004; Chambless et al., 1998; Foa, Davidson & Frances, 1999; NICE, 2005; NIMH, 2002), point out that the treatments for stress disorders enjoying stronger empirical endorsement are the following: anxiety control training (or stress inoculation training), cognitive restructuring techniques (or cognitive therapy) and exposure techniques – all of which are cognitive-behavioural techniques. Furthermore, most of said treatment and clinical practice guidelines suggest that, on the basis of current scientific knowledge, said psychological techniques for stress disorders should be favoured (Foa et al., 1999; NICE, 2005; NIMH, 2002) over other somehow popular psychological techniques (e.g., psychological debriefing) or psychopharmacological therapies.

A vast majority of studies included in the aforementioned reviews and guidelines are designed for the purpose of assessing the efficacy of interventions, not their clinical usefulness. Those studies are characterized for giving priority to internal validity in order to infer the occurrence of a causal relationship between interventions and positive out-

comes observed on completion of said interventions. To this purpose, researchers enjoy the most ideal and controlled options available to enable the detection of any, even the smallest positive effect exclusively due to the treatment. At least, this implies that researchers must have a considerable control over the selection of participants in the sample (using, for example, strict inclusion and exclusion criteria), the administration of treatments (usually through random allocation of participants to treatment/control groups), and the method of application of said treatments (using, for example, therapists specifically trained with treatment manuals and rated according to their adherence to these manuals). The typical example of an efficacy study is an experimental study (or randomized clinical trial) involving a control group (controlled study) over a homogeneous sample of patients in the structure environment of university laboratories. As internal validity is prioritized, said studies partly sacrifice external validity and, therefore, it is not clear whether the positive effects found under the ideal and controlled conditions of the laboratory can be transferred directly to the habitual clinical practice that deals with a much more heterogeneous population – in which the application of treatments is flexible, self-corrective, and led by clinical professionals with varying clinical experience and skills.

Research studies that directly tackle clinical usefulness of interventions that have previously proved to be efficacious are known as effectiveness studies or clinical usefulness studies. Their main feature is that they prioritize external validity and, therefore, assess the effects of treatments in conditions that are as similar as possible to the conditions provided in habitual clinical practice. That is, natural therapeutic contexts are used (such as, for example, mental health centres, hospitals, private psychology practices), clinical professionals who operate in said contexts, and more heterogeneous samples of patients selected with no inclusion/exclusion criteria among individuals who normally use or are referred to said contexts.

The purpose of this study is to assess the clinical usefulness of cognitive-behavioural therapies recommended for psychological disorders triggered by mass terrorist attacks and other catastrophes, and dealing specifically with acute stress and posttraumatic stress disorders. To this purpose, we will analyze the results from psychological interventions conducted with individuals affected by the 3/11 attacks at the *Clinica Universitaria de Psicología* [University Psychology Clinic (known as *Unidad de Psicología Clínica y de la Salud* until February 2008)] of the Complutense University of Madrid (UCM, by its Spanish acronym). The Clinic is a registered health care centre that provides outpatient psychological care to patients with mental health problems and other health issues from both the University and society at large. These patients are assisted by resident graduates in Psychology undergoing specialized clinical training under supervision. In other papers (García-Vera, 2004; García-Vera & Cruzado, 2003), I have extensively described other features of the Clinic, including its staff, welfare and educational activities, types of patients, most frequent reasons for consultation, etc. Even though the Clinic displays distinct features that not found in other natural therapeutic contexts (e.g., clinicians are resident psychologists who are still undergoing training and receive tutoring by university professors and other specialists), therapeutic results obtained at this clinic enable us to assess the clinical usefulness of treatment programmes based on psychological techniques that have previously proved efficacious in the treatment of stress disorders in controlled experimental studies. Thus, as in habitual clinical

practices, a heterogeneous sample of patients affected by the 3/11 attacks selected under no inclusion/exclusion criteria was treated at the Clinic. Furthermore, the clinicians in charge did not receive any specific or intensive treatment in manual-based treatment programmes for stress disorders, but undertook to adapt empirically endorsed treatment programmes based on cognitive-behavioural techniques to the characteristics of each patient. In addition, they modified said programmes in accordance with the progress of each patient and circumstances of the therapy to ensure a flexible and self-corrective treatment.

METHOD

Participants

Forty patients including 39 adults (27 females and 12 males) ages 20–54, and an 11-year old boy, were individually treated at the Clinic between 15 March and 5 November 2004. Patients included 55% of relatives, partners or friends of persons killed in the attacks; 17.5% were students who participated as volunteers in victim and relative support tasks; 12.5% were first-hand witnesses who were travelling on the trains or standing at the stations struck by the attacks; 7.5% lived close to the places where tragedy struck or watched it on TV; and the remaining 7.5% were individuals wounded in the attacks (see Table 1).

Most patients (45%) displayed stress disorders including acute stress (22.5%) and posttraumatic stress (22.5%). All patients presenting anxiety symptomatology similar to that of acute or posttraumatic stress disorders – and even symptoms that belong to any of the other two symptomatic stress disorder groups (dissociative symptoms and replay of the tragedy), but who did not completely meet the DSM-IV diagnostic criteria for said disorders – could also be included in this stress disorder category (for example: anxiety, insomnia, nightmares, fear of trains, avoiding terrorist attack-related information and locations, and hypervigilance). In such cases, which for many researchers represent the occurrence of partial posttraumatic or acute stress disorder (Schützwohl & Maercker, 1999; Zlotnick, Franklin & Zimmerman, 2002), the diagnosis was, according to the DSM-IV scheme, adjustment disorder with anxiety (25%) and adjustment disorder with mixed anxiety and depressed mood (10%). As a result, 80% of patients presented, as their main pathological response to the 3/11 attacks, a symptomatology characterised by replaying the tragedy, avoidance of tragedy-associated stimuli, the presence of dissociative symptoms or very high activation and anxiety.

For the remaining patients (20%), the fundamental psychological issue focused on symptoms of depression (see Table 1): a patient displayed an adjustment disorder with depressed mood; six patients (15%) sought professional help to alleviate the depression symptoms of their reaction to the death of a loved one (grief); and the remaining patient displayed so many, intense and frequent depression symptoms caused by the loss of a relative (a son) that led to a long, sharp and gradual functional deterioration, that it was deemed that the most appropriate diagnosis for this person's condition was not grief but major depressive disorder. In addition, this was the only patient presenting psychopathological comorbidity, to the point that the corresponding symptomatology also justified the posttraumatic stress disorder diagnosis – yet the discomfort and degree

of interference associated with the depression symptoms were much greater and, therefore, major depressive disorder was deemed as the main diagnosis.

The grief reactions of five other patients caused by the death of a relative were also object of clinical consideration and were concomitant with posttraumatic stress disorder (four patients) or adjustment disorder with anxiety (one patient) diagnoses – even though in these five cases the intensity, nature and degree of interference of the depressive symptomatology characteristic of grief did not justify the diagnosis of a clinical disorder such as, for example, a depressive disorder or adjustment disorder with depressed mood.

Main diagnosis as per DSM-IV	Victim	Familiar	Witness	Volunteer	General Population	Total
Adjustment disorder with anxiety	1 (33%)	7 (32%)		2 (29%)		10 (25%)
Posttraumatic stress disorder	1 (33%)	5 (23%)	2 (40%)	1 (14%)		9 (22.5%)
Acute stress disorder	1 (33%)	1 (4,5%)	2 (40%)	2 (29%)	3 (100%)	9 (22.5%)
Grief		6 (27%)				6 (15%)
Adjustment disorder with mixed anxiety and depressed mood		2 (9%)	1 (20%)	1 (14%)		4 (10%)
Adjustment disorder with depressed mood				1 (14%)		1 (2.5%)
Major depressive disorder		1 (4.5%)				1 (2.5%)
Total	3 (100%)	22 (100%)	5 (100%)	7 (100%)	3 (100%)	40 (100%)

Table 1. Main psychological diagnosis corresponding to victims of the 3/11 terrorist attacks according to their connection to said events.

Note. Values represent the number of patients (percentages in brackets to be read by columns).

Measures and instruments

All patients were initially assessed by means of a semi-structured interview and several questionnaires designed to measure stress, anxiety or depression symptoms, or how they cope in several areas of their daily life. The questionnaires specifically provided to each patient varied according to the type of disorder they suffered, problems associated with their conditions and their own characteristics (e.g., age). Nevertheless, the most often used were, in decreasing order, the Scale of Acute Stress Symptoms (ESEA, by its Spanish acronym), the Maladjustment Scale (EI, by its Spanish acronym), the Beck Depression Inventory-Second Edition (BDI-II) and the State-Trait Anxiety Inventory (STAI).

The ESEA is a self-report questionnaire designed for assessing the occurrence of acute stress disorder symptoms included in the DSM-IV diagnostic criteria. This scale was created ad hoc for the purpose of including it as a self-evaluation tool in the “Psychological Self-Help Guide Following the 3/11 Terrorist Attacks” prepared by the Clinic for the purpose of helping individuals affected by those attacks [*Grupo de Trabajo de la Clínica Universitaria de Psicología* (University Psychology Clinic’s Workgroup), 2008]. The ESEA includes 22 items, each reflecting a specific acute stress symptom, whose intensity is assessed on completion with Likert-type scales with 4-point format (“none”, “slightly”, “very” and “extremely”). It is deemed that a symptom is present

when the individual values an item as “very” and “extremely”, thus the ESEA’s total score ranges between 0 and 22. A score of 5 points was set as the threshold for identification of clinically significant stress levels.

The EI (Echeburúa, Corral & Fernández-Montalvo, 2000) is a self-assessment tool that includes six items rated with Likert-type 0-5-point scales for the purpose of measuring the degree of a traumatic event’s impact on the patient’s adjustment to life in general and, specifically, to every area of life: work, social life, leisure, marriage/couple relationship and family. The scale’s total scores range between 0 and 30. A score of 12 in the overall scale and 2 for each item indicate clinically significant levels of maladjustment.

The BDI-II (Beck, Steer & Brown, 1996; adapted in Spain by Sanz, Navarro & Vázquez, 2003) is a self-report questionnaire designed for addressing all symptomatic diagnostic criteria corresponding to depressive disorders according to the DSM-IV. The BDI-II includes 21 items and four response options scored 0-3, thus scores can range between 0 and 63. A score of 13 indicates the occurrence of clinically significant levels of depressive symptomatology.

The STAI (Spielberger, Gorsuch & Lushene, 1970; Spanish adaptation of TEA: Spielberger et al., 1997) is a self-assessment questionnaire that includes 20 items designed for the purpose of assessing the trait anxiety, plus a further 20 for measuring trait anxiety. The items are rated with Likert-type 0-3-point scales, thus the scores of each scale range between 0 and 60. The most common threshold for detection of clinically significant anxiety levels is a percentile score of 75 (Echeburúa, 2004).

Except for discontinuance cases, all patients underwent a post-treatment assessment through an interview that focused on their own disorders and issues, as well as via a number of the questionnaires used during the pre-treatment evaluation and any other directly connected with their specific problems. This assessment was conducted during the final treatment session, except for patients who were still undergoing treatment when this study was conducted. In these cases, the post-treatment assessment was conducted during the last week of October and first week of November 2004.

Procedure

Standard multi-component intervention programmes were selected a priori for disorders that were likely to affect the victims of the 3/11 attacks, specifically, acute stress and posttraumatic stress disorders, depressive disorders, and grief reactions. However, the final treatment session was conducted when both the therapist and the patient agreed that the latter’s condition had experienced an improvement and the patient was then able to resume normal life as it was prior to the attacks, and thus both agree to end the treatment. Therefore, many patients were released before completing all the parts of the intervention programmes set a priori. In any case, the release from therapy also implied that the therapist had expressly checked via interview conducted during the post-treatment assessment stage that the disorder’s diagnostic criteria initially suffered by patients had disappeared completely, and that the patient’s scores in the symptomatology questionnaires provided were below the thresholds – thus each tool showed that the patient had regained their normal behaviour. Thus, the release from therapy in this study is defined by the three following simultaneous conditions: (a) patient and therapist agree on the improvement of the disorder and return to normal life; (b) absence of

symptomatology that meets the diagnostic criteria of the initial disorder or problem; and (c) relevant symptomatology tool scores within the range of normality.

For patients with stress disorders (80% of all cases treated), the standard treatment programme followed included the following components:

1. Psychoeducation

It involved education on common reactions to traumatic events such as terrorist attacks, and the nature of stress disorders, including information on other conditions that may be triggered by tragedy, such as finding it hard to control emotions and interpersonal relationships. To this purpose, we used the information included in the “Psychological Self-Help Guide Following the 3/11 Terrorist Attacks” and, in fact, all patients were provided a copy of this guide. This therapeutic component also involved providing the patient with a description of the proposed treatment explaining the rationale behind it and recovery expectations.

2. Anxiety control techniques

Following the rationale of Meichenbaum’s stress inoculation training, we included techniques that focused on teaching patients the skills required for facing any cognitive and/or physical anxiety symptoms that could affect them in the future. Of all physical anxiety symptom control techniques available, we opted for slow abdominal breathing training, which, being aware of its simplicity as well as its immediate positive effects, was applied in some cases from the very first session. Techniques applied for control of cognitive symptoms of anxiety included principally thought-stopping and distraction techniques designed for controlling the frequency and duration of negative thoughts (e.g., traumatic memories, ruminations about the attacks) and training on self-instructions for use of self-affirmations for coping and positive self-dialogue to replace negative thoughts when patients either foresee or have to face terrorist attack-related situations.

3. Cognitive restructuring techniques

Following the rationale of Beck’s cognitive therapy, these techniques focused on teaching patients how to identify negative thoughts (e.g., believing that a stranger wants to harm you, or that someone’s backpack contains an explosive) and dysfunctional beliefs (e.g., the world is unsafe) via self-records, assessing the validity of these beliefs and thoughts and weighing up all data for and against them, and adopting alternative beliefs and better adjusted thoughts regarding the attacks, oneself, the world and the future.

4. Exposure techniques

These techniques were used to help individuals to face internal and external stimuli associated with the attacks that were causing them fear, anxiety and unease. Exposure could be imagined (repeated and prolonged emotional recollection, through vivid description, in first person and present tense, of traumatic memories until uneasiness dissipates); or live (real, gradual and prolonged confrontation with the dreaded stimuli until anxiety levels decreased), even though the plan a priori was to use both

forms of exposure by working first with imagined exposure followed by live exposure as soon as the therapeutic goals were achieved.

For patients who essentially displayed a high level of depressive symptomatology that justified the adjustment disorder with depressed mood or major depressive disorder diagnosis, the intervention programme used included psychoeducation components and anxiety control/cognitive restructuring techniques, with stronger emphasis on the latter two for the purpose of overcoming thoughts and feelings of guilt (e.g., blaming oneself for having survived or not having been able to help other victims). In addition, pleasant activities and gradual allocation of daily activities were scheduled in the programme for the purpose of fencing off anhedonia, preventing idleness and social isolation, and lifting the mood. These guidelines of intervention were also based on the most empirically supported cognitive-behavioural treatments for depressive disorders (see Pérez & García, 2003) – treatments that also provide the basis for the multi-component intervention programme applied to individuals with depressed symptoms of grief. In these cases, psychoeducation was geared to adjusting grief reactions by providing information on how people react during the grief process and what can be expected from it (e.g., the process takes longer than people expect, yet it is an active process that involves work to achieve recovery). Anxiety control techniques were also included (breathing, coping with negative thoughts, positive self-instructions), activities allocated gradually for the purpose of normalizing daily life, and pleasant activities were scheduled to foster the support of relatives and friends. Finally, the therapy also involved cognitive restructuring techniques to fight negative thoughts and dysfunctional attitudes (e.g., “I should have dealt with this by myself, without help”, “I will never leave this behind”).

By all means, factors such as associated symptomatology (e.g., feelings of guilt were detected in most patients with stress disorders, while the occurrence of behaviours of avoidance of objects and situations that brought memories of the dead persons was also evident), comorbidity, the previous occurrence of psychosocial issues (e.g., family relationship problems) or psychosocial complications triggered by the terrorist attacks and their own disorders (e.g., problems at work caused by anxious-depressive symptomatology) led therapists to combine the components of treatments in several ways, or to add different therapeutic components (e.g., teaching communication skills to foster contact with social support networks).

RESULTS

Taking into account the aforementioned definition of therapeutic discharge, Table 2 includes the therapeutic results obtained as well as the number of evaluation-treatment sessions conducted. Two patients (5%), a victim and the relative of a victim, both suffering posttraumatic stress disorders, discontinued the treatment after the third and sixth session respectively. A further two patients (5%) were still undergoing treatment when this study was conducted, having undergone 13 and 15 evaluation-treatment sessions until that time respectively. Both patients were relatives of a person killed in the attacks and presented posttraumatic stress disorders, even though one also suffered a major depressive disorder, which was considered as the main problem

The remaining 36 patients (90%) were discharged after undergoing an average of 4 sessions. Up to 60% of these patients required an average of seven and a half sessions to complete the treatment, while the remaining 40% required at least 4 sessions. As it can be noted on Table 2, the latter group included 6 patients whose sole condition for clinical treatment was grief and underwent an average of only two evaluation-treatment sessions. However, the same group also included patients with adjustment, posttraumatic or acute stress disorders. Visual analysis of Table 2 also suggests that the treatment of cases with grief, acute stress and adjustment disorders was more successful (100%) than cases with posttraumatic stress disorders (67%).

Main diagnosis as per DSM-IV	Discharges	Discontinuan-ces	Under treatment	No. sessions	
				Average*	Range
Adjustment disorder with anxiety	10 (100%)			5	2-12
Posttraumatic stress disorder	6 (67%)	2 (22%)	1 (11%)	6	2-16
Acute stress disorder	9 (100%)			4	3-7
Mourning	6 (100%)			2	2-3
Adjustment disorder with mixed anxiety and depressed mood	4 (100%)			4.5	2-6
Adjustment disorder with depressed mood	1 (100%)			3	3
Major depressive disorder			1 (100%)	15	15
Total	36 (90%)	2 (5%)	2 (5%)	5	2-16
Average number of sessions *	4	4.5	14		

Table 2. Outcome of the psychological treatments conducted with the victims of the 3/11 attacks in this study according to main diagnosis and number of evaluation and treatment sessions received on the basis of the main diagnosis and therapeutic results.

Note. Except otherwise specified, values represent the number of patients (percentages in brackets to be read by columns). * Values rounded to the closest integer.

DISCUSSION

The main purpose of this study was to assess the effectiveness or clinical usefulness of empirically supported cognitive-behavioural treatments for psychopathological consequences of mass terrorist attacks, specifically acute stress and posttraumatic stress disorders. To this purpose, a non-experimental pre-test/post-test study without control group was submitted including the therapeutic results obtained with victims of the 3/11 terrorist attacks who were provided assistance at the UCM's University Psychology Clinic.

It is obvious that the number of patients that received assistance at the Clinic was small, which sets a limit to any generalizations that could be made regarding the results obtained. It is also clear that non-experimental research also displays major limitations when attempting to establish causal connections between the treatments applied and the therapeutic effects achieved. Furthermore, this study would have benefited greatly from more in-depth evaluation of therapeutic process and result variables, as well as from a more quantitative, multiaxial, multimethod and multitemporal definition of therapeutic success. Yet, in spite of said limitations, it is still possible to extract from the results herein submitted some conclusions regarding the treatment

of psychopathological effects caused by terrorist attacks – conclusions that must be analyzed by focusing more on the context of discovery than on the context of justification, but we do believe that can be of interest for both clinical practice and future research.

The first conclusion corresponds to the main purpose of this study. The achievement of 90% therapeutic success with all disorders and problems presented by 3/11 victims, 100% with acute stress disorders, and 67% with posttraumatic stress disorders, enable us to conclude, with due caution, that multicomponent interventions based on therapeutic techniques enjoying higher empirical endorsement and which have been recommended by guidelines for treatment of stress disorders (anxiety control, exposure and cognitive restructuring techniques) are useful for clinical practice dealing with individuals with psychological problems and disorders triggered by mass terrorist attacks.

This is doubtless a conclusion that also enables us to presume, in broad terms, that the treatments that have proved their efficacy in strict and controlled studies are also quite likely to be effective in standard clinical practice. Furthermore, a study that failed to be efficacious in ideal conditions would have little chance of being effective in the less than ideal conditions of standard practice. Therefore, the criteria for selection of the most appropriate treatment for psychological disorders triggered by mass terrorist attacks must be, first and foremost, that it has proven to be efficacious. Not just any treatment is acceptable. It is best to start with what we already know that works, at least in ideal conditions, with what past research offers as the most valid procedures (more so if they had proved to be useful). Then, if the treatment eventually fails to be useful for clinical practice, it would be appropriate to raise other therapeutic strategies that, even if not empirically supported, could theoretically be useful for the specific matter at hand.

Nevertheless, before setting forward the application of these alternative therapies, which we are not sure will work at this stage, it would be advisable to check that the application of the most empirically supported techniques has been conducted appropriately. This means, among other things, that the techniques have been applied in compliance with a protocol already verified by previous research, featuring a high level of individualization adjusted to the problems and characteristics of patients and their situation. Again, it is important to remember that the inflexible application of any technique can often be counterproductive, and that individualization and flexibility in the application of said treatments do not mean that treatments can be conducted in any which way. Finding the balance between strict allegiance and individualization in relation to the active ingredients of treatments represents one of the key clinical competencies that must be used to weigh up data and to compare scientific research with clinical experience.

Furthermore, the results obtained in this study enable us to answer, though only tentatively, some of the concerns voiced by clinicians at the time of conducting empirically validated treatments for stress disorders including, above all, exposure treatments. One of these concerns relates to the possibility that exposure techniques could exacerbate the negative effects of the traumatic event. In the light of the results of our study, it does not appear that said concern is justified, as none of the disorders suffered by patients to whom said techniques were applied deteriorated in the least.

A further concern voiced by clinicians regarding the application of exposure techniques is the patients' lack of motivation and unwillingness to undergo any therapeutic task involving either imagined or live exposure to the traumatic event or any other associated stimuli. Yet again, our results do not appear to justify this concern. In fact, patients in this study seemed to be especially motivated to carry out any task that could help them resume a normal life. This, perhaps, was to be expected from patients who had joined the volunteer units that helped the victims of the attacks and their relatives, yet it was also the case of several individuals with no connection whatsoever with any volunteering or psychological support services. Moreover, the two individuals who discontinued the treatment did so while they were treated with anxiety control techniques, and had never been in contact with exposure techniques, for these were applied at a much later stage.

There is reason to speculate, though, whether the massive level of social support that surrounded the victims of the 3/11 terrorist attacks and which extended to their processes of recovery (including events, rallies, resources offered by government agencies, news and broadcasts, etc.) did contribute to raise motivation to the high levels detected in our patients.

Following a tragedy that has taken the lives of so many people such as the 3/11 terrorist attacks, we can expect many negative psychological effects arising from the loss of loved ones – specifically grief processes that could be labelled as “normal” encourage the individual to seek help, mainly because grief symptoms are likely to interfere in their habitual daily activities. Moreover, symptoms of a major depressive disorder may appear in some cases.

Even though the use of a multicomponent programme based on the most empirically supported techniques for depressive disorders had been initially considered for these cases, results indicate that most cases improved after very few sessions (an average of two) and practically all of them with the mere application of psychoeducational techniques, that is, by offering information on how people react in a grief process in order to help them normalize their own reactions, and by providing a self-help manual featuring basic guidelines on relaxation techniques, control of negative thoughts, seeking social support and coping with daily life as normal.

In this sense, the results offered by this study show that 40% of patients, independently of their disorders, improved after undergoing fewer than four treatment and evaluation sessions. It may be the case that the individual's normal processes of recovery were mostly responsible for this improvement. However, it is also possible that said sessions (mainly psychoeducation and learning of anxiety control techniques) were the catalysts of these recovery processes. The inevitable questions in this regard focus on one key issue: what would have happened if the intervention, even brief, had not taken place? Would symptoms have exacerbated or become chronic? Would individuals have been more vulnerable to the occurrence of further disorders? Unfortunately, we do not have any data available to enable us to answer irrefutably these questions, but certainly these issues are relevant enough to become the subject and purpose of future research.

KLINICKÁ EFEKTIVITA KOGNITIVNĚ-BEHAVIORÁLNÍ LÉČBY PSYCHOLOGICKÝCH PORUCH ZPŮSOBENÝCH TERORISTICKÝMI ÚTOKY S VELKÝM POČTEM OBĚTÍ

Abstrakt: Hlavním účelem článku je posouzení účinnosti nebo klinické užitečnosti empiricky podpořené kognitivně-behaviorálních léčby u psychopatologických následků masových teroristických útoků, a to zejména akutního stresu a posttraumatické stresové poruchy. Za tímto účelem jsme analyzovali výsledky z psychologických zásahů prováděných u jednotlivců ovlivněných útoky z 3/11 na Clínica Universitaria de Psicología (Univerzitní psychologická klinika – s názvem Unidad de Psicología Clínica y de la Salud do února 2008) na Complutense University v Madridě (UCM, podle španělského akronymu).

Klíčová slova: psychologické reakce, posttraumatická stresová porucha, depresivní poruchy, duševní zdraví, kognitivní terapie, psychoedukace, techniky zvládání úzkosti, kognitivně restrukturalizační techniky