

THE EFFECTS OF UPLEDGER CRANIOSACRAL THERAPY ON POST TRAUMATIC STRESS DISORDER SYMPTOMATOLOGY IN VIETNAM COMBAT VETERANS

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ABSTRACT

The Upledger Institute has provided two week intensive treatment for Vietnam veterans suffering from Post Traumatic Stress Disorder as diagnosed by the Veteran's Affairs (VA) medical division. These patients received psychological evaluation tests at the times of entry and exit into and out of the program. The intensive treatment was about six-seven hours per day for eight full days, with approximately three-four hours on the first and last days of the program. The therapy used was primarily Craniosacral Therapy and its progeny Energy Cyst Release, SomatoEmotional Release and Therapeutic Imagery and Dialogue. The results obtained strongly suggest that PTSD may be more successfully treated when the therapy includes corrections of the craniosacral system, the release of foreign energies and conscious-nonconscious integration.

KEYWORDS: Post Traumatic Stress Disorder (PTSD), Craniosacral Therapy, Energy Cyst Release, SomatoEmotional Release, Therapeutic Imagery and Dialogue, Intensive Treatment

INTRODUCTION

Post Traumatic Stress Disorder (PTSD) is typified by uncontrollable intrusive thoughts, images and/or memories. Distressing dreams and/or nightmares as well as flashbacks, hallucinations, illusions and the re-experiencing of past events as present are also common. PTSD patients will often act upon re-experiences as though they were the present reality. There is marked mental distress accompanied by low self-esteem, frustration, depression and hopelessness. Suicidal thoughts are quite common among the PTSD patient population. PTSD patients often isolate themselves from society in an attempt to avoid triggers that may cause recall of events and experiences that are etiologically related to the PTSD. In the case of combat veterans, some have isolated themselves for fear that, in a state of altered consciousness/reality, they might attack innocent bystanders. PTSD patients are frequently unable to participate in meaningful love/family relationships. They are often unable to pursue the development of careers and/or professions, nor can they maintain steady employment. They are prone to outbursts of anger, hyper-vigilance and hyper-responsiveness to mild startle stimuli and, severe insomnia.

The symptoms of PTSD may appear all at once, almost immediately, after a precipitating event(s), or they may come on gradually, perhaps one at a time over a period of months or years after the precipitating event(s). PTSD happens to persons who have been involved in experiential situations related to death, near death or threat of death, which may be either their own or someone else's. PTSD may also occur subsequent to situations not necessarily related to death but to severe brutality, violence, terror, fear, severe guilt and the like. The involvement of the PTSD patient in any of these events may have been as victim, perpetrator, accessory or witness.

The United States Department of Defense estimates that between 2.5 and 3 million American soldiers were deployed in the Vietnam conflict. Approximately 500,000 of these military personnel saw active combat. The Veterans Administration National Center for PTSD estimates that nearly 1 million of those deployed during the Vietnam War era suffer from the myriad of symptoms that accompany PTSD (i.e., frequent and repetitive nightmares, flashbacks, emotional detachment from loved ones, suspicion and paranoia, hostility, hyperarousal and excessive responsiveness to being startled, sexual

dysfunction, depression, obsessive-compulsive behavior, social alienation and substance abuse). The VA estimates that they have treated only 20% of the Vietnam veterans who experience PTSD. In 1996, they provided 340,000 outpatient visits to 26,000 individual patients. It is suggested by Vietnam veteran associations that there have been as many post Vietnam War suicide deaths of veterans (50,000+) as there were combat casualties during the war. The need for effective treatment and resolution of this disorder is obvious.

A recent search of the Internet located nearly 1,000 sites devoted to the topic of Post Traumatic Stress Disorder, with the majority of these sites focused upon PTSD and Vietnam veterans. A review of the database site Psych-Info identified over 2,000 articles concerned with research and treatment of Post Traumatic Stress Disorder, again with a majority of articles focused upon PTSD and Vietnam veterans. An additional 825 articles were referenced on a relatively recent indexing service (Psych Crawler), which collects data from a dozen professional organizations devoted to healthcare (i.e., AMA, APA, etc.) Clearly, there is substantial interest in, and discussion of, PTSD occurring in the professional literature and on a variety of Internet web sites. We believe that there is also a need for additional treatment approaches, treatment programs, and treatment success with this deserving population.

DEVELOPMENT OF THE RESEARCH

On March 16, 1993, The Upledger Foundation funded an intensive CranioSacral Therapy program for six Vietnam veterans who were suffering from, had been diagnosed with, and were being treated for PTSD. To our knowledge, this was the first such program ever for Vietnam veterans. This two-week intensive program was, by the self-reports of those involved, quite successful. (It is described more thoroughly in an unpublished paper, and a videotape summary of the program is available from the authors.) It is the success of this earlier program that influenced our desire to further evaluate the effectiveness of CranioSacral Therapy for Post Traumatic Stress Disorder symptomatology in Vietnam veterans.

In the Fall of 1998, senior staff from the West Palm Beach VA Medical Center (Chief of Staff, Associate Director, Chief of Psychiatry, Associate Chief of

The intensive CranioSacral Therapy treatment program decided upon was composed of two five-day segments with a rest weekend positioned between. The treatment day began at 10:00 a.m. and continued until 5:00 p.m. daily. The treatment process on the first and last days of the 10-day program was shortened to allow for the administration of testing instruments utilized for pre- and post-treatment measures (described below), and for the completion of videotaped individual entry and exit interviews. All subjects were given lodging at a small local motel. Transportation to and from the clinic was provided. Buffet continental breakfasts and lunches were furnished at the treatment facility for subjects and therapists. The purposes for providing buffet meals were for convenience, to promote camaraderie, to conserve on time, and because of limited financial resources of all participating veterans. The actual treatment day began with a group discussion of all participants (subjects and therapists) in which treatment descriptions, responses and reactions to the prior days

METHOD

Given the success of The Upledger Foundation's 1993 pilot study, the Foundation decided to proceed with the proposed research project independent of the VA Medical Center. Funding for this research project (approximately \$240,000) was shared by The Upledger Foundation, The Janice and Robert McNair Foundation, and the Tides Foundation.

Nursing Service Research, and the Director of Health Services Research and Development) met with members of The Upledger Institute HealthPlex Clinical Services staff (President and Medical Director, Chief of Staff, Director of Intensive Programs, Chief Executive Officer) to discuss a collaborative research project to assess the efficacy of CranioSacral Therapy in reducing Post Traumatic Stress Disorder symptomatology in Vietnam veterans. A preliminary proposal outlining the rationale and objectives, research design and methodology was drafted, agreed upon and prepared for submission to the Health Services Research and Development Office of the Department of Veterans Affairs in Washington, D.C. In the spring of 1999, significant staff changes occurred at the West Palm Beach VA Medical Center, resulting in the indefinite postponement of the research project, which had been proposed to begin in the summer of 1999.

Twelve of the patients were referred by two different counselors who worked with them in private or organizational settings. These counselors themselves were Vietnam Vets who had participated in previous CranioSacral treatment programs and had gone on to become CranioSacral practitioners. One patient was referred by the local VA Hospital. The remainder were referred by graduates of previous programs. All of the veterans had some contact with the Veterans Administration System. Three had been through the VA's 16-week PTSD inpatient program. All had some experience with counseling programs run by the VA. Most had eventually turned to counseling programs run by

completely unemployed. Eighteen of the participants were receiving VA disability payment. They were parts were diagnosed with PTSD by the Veterans Affairs (VA) health system. She served at a field hospital located very near the line of battle. All participants suffering from combat related Post Traumatic Stress Disorder except the female. All subjects were diagnosed as 1 female) to complete the entire program. All subjects were diagnosed as withdrew from the project before completion, leaving 22 veterans (21 males, conducted between June 7th and December 17th, 1999. Two participants each of four two-week intensive CranioSacral Therapy programs served as voluntary subjects for this study. Six veterans were enrolled in **S**ubjects. Twenty-four Vietnam veterans, from 10 states within the U.S.,

PARTICIPANTS

process, questions of daily activities, as well as comments of therapeutic significance were shared in an unrestricted and open manner. The group discussion typically lasted about 60 minutes, followed by a brief group meditation prior to the beginning of treatment. The lunch break was at the convenience of each subject, lasted between 30 and 45 minutes, and occurred usually between 12:30 and 2:00 p.m. Primary treatment modalities provided throughout each treatment day were CranioSacral Therapy and its derivatives: Energy Cyst Release, SomatoEmotional Release, and Therapeutic Imagery and Dialogue. Additional modalities used throughout the two-week program, as appropriate to each individual subject, included spinal manipulation, Myofascial Release, acupuncture, acupressure, Visceral Manipulation, therapeutic massage and, on more rare occasions, individual psychotherapy and hypnotherapy.

various veteran organizations such as The Disabled American Veterans or the Vietnam Veterans Association. Virtually all of them were taking some combination of psychotropic medications and other drugs prescribed by the VA to treat their emotional and physical problems. All of them had some co-morbid physical condition ranging from old combat injuries to problems of the gastrointestinal, cardiovascular and/or respiratory systems. Six had multiple psychiatric hospitalizations for depression and suicidal behavior. One had received electroconvulsive therapy. Most had actively utilized illegal drugs in an effort to self medicate. While the majority had utilized heroin, cocaine and/or hallucinogenic drugs at some point in the past, most were currently using marijuana along with fairly large doses of physician-prescribed anti-anxiety, anti-depressant, hypnotic and mood-stabilizing medications. Ambien, Atavan and Klonopin seemed to be favorites. About half of them had run-ins with military or civilian authorities, and two had spent extended periods in prison for drug-related crimes.

During their Vietnam tour, each veteran had either a punctuated series of ongoing traumatic combat experiences (such as missions to search for, identify and return mutilated corpses of combatants while being fired upon), or had been exposed to extended periods of extremely high stress (such as weeks of unrelieved search and combat missions in which old buddies and new replacement troops were killed on a daily basis). Almost all of them had either witnessed or carried out horrific deeds of war (such as killing women and children), which were ego-dystonic to their former standards of behavior, but which were either explicitly or implicitly labeled "acceptable" in their roles as soldiers. While they were forced to ignore any intrapsychic conflict during the actual experiences, the conflicts resurfaced later when they returned home. In all cases the participants experienced intense fear, horror or helplessness during their combat exposure.

Therapists. Each two-week program included 22 therapists from a variety of healthcare disciplines (osteopathic, chiropractic, psychiatric and oriental medicine; physical, occupational and massage therapy; nursing; psychology). Through the course of the four treatment programs, 48 individuals from 13 states within the US and three foreign countries served as therapists. All therapists were chosen for their experience and skill utilizing CranioSacral Therapy. Seven of the 48 therapists had participated as members of the

treatment team during the aforementioned 1993 Upledger Foundation Vietnam Veteran Pilot Study.

PRIMARY TREATMENTS

CranioSacral Therapy. CranioSacral Therapy is a very soft-touch, hands-on treatment modality that is focused upon the removal of restrictive forces within the meningeal membrane system and all of the bones of the skull and vertebral column, including the sacrum and coccyx to which these membranes attach. Therapeutic attention is also focused upon any myofascial tension patterns and osseous problems that may be indirectly impairing the free mobility of the meningeal membrane system and consequently the craniosacral system. The craniosacral system is a semi-closed hydraulic system which uses as its boundary the waterproof dura mater. The fluid in the system is the cerebrospinal fluid. The controlled inflow and outflow of the fluid are by the choroid plexus and the arachnoid villae bodies, respectively. The craniosacral system has a rise and fall of its fluid volume, which cycles from 6 to 12 times per minute under normal conditions. It is the controlled inflow and outflow of cerebrospinal fluid that qualifies this hydraulic system as semi-closed.

CranioSacral Therapists make use of the rise and fall of cerebrospinal fluid forces to mobilize restricted areas in the meningeal membrane system. They also use direct but gentle forces to release restricted bone motions that might impair the normal physiological accommodation of the constantly changing volume of the cerebrospinal fluid. The techniques used require a high level of manual skill and sensitivity by the therapist. A single patient may receive treatment by one or more therapists at the same time. In the case of multiple-therapists working concurrently, they function as a team in order to release restrictions from multiple directions at the same time.

This treatment process, when done with reasonable skill, is essentially risk-free. It has been used successfully with a wide spectrum of patients ranging from closed head injury to learning disabilities, and from reflexive sympathetic dystrophy to premenstrual tension. By relieving abnormal membranous tensions that may compress spinal nerve roots, brain areas, cranial nerves, pituitary stalk, etc., and by improving the flow of cerebrospinal fluid, a wide range of positive results are achieved.^{1,2}

Energy Cyst Release. Energy Cyst Release is a therapeutic process wherein the CranioSacral Therapist is able, by sensitive manual evaluation, to locate a specific area in a patient's body wherein its inherent and subtle physiological rhythmic movements are disrupted. Quite often this disruptive or chaotic area of energetic activity is the result of the retention of energy put there by a traumatic force. When discovered, the area of disruptive activity may be released by assisting the patient's body to return to the position it was in at the time of injury. The patient's body seems to retain memory of this position. When the proper position is obtained, the disruptive energy spontaneously releases from the patient's body via the same tract by which it entered.

In order to achieve the release of the energy cyst, the therapist simply uses his/her own forces to carefully counter-balance the forces of gravity. Once this is accomplished, the therapist assists the patient's body to achieve agonist-antagonist balances. When the proper position is achieved, the normal rhythmic activity of the craniosacral system abruptly stops. At this time the energy of the injury will exit via the same path that was its entry at the time of the traumatic incident. Quite often the patient will feel emotions similar to those that were present at the time of the trauma. During the release, skin temperature elevates at the site of the trauma. The position of release is held until the craniosacral rhythm resumes, the emotion passes, and the skin temperature returns to normal.

Energy Cyst Release usually focuses on a specific area. It is local rather than global. In contrast, SomatoEmotional Release is global, and has no localized focus which dictates the therapeutic approach.^{1,2,3,4}

SomatoEmotional Release. SomatoEmotional Release refers to the retention of disruptive or chaotic energy. However, this energy permeates most or all of the patient's bodily tissues, viscera, systems and so on. SomatoEmotional Release has no localized focus. The therapist simply blends with the patient through intentioned touch. When a trust is developed between patient and therapist, slight bodily movements will begin. If the therapist has enough sensitivity to perceive these motions and then to delicately support them, the SomatoEmotional Release process may begin.

The therapeutic process of SomatoEmotional Release focuses upon very deep emotions. The skilled therapist follows the bodily positions manually and

On the first day of the treatment program, subjects underwent a craniosacral system evaluation, a videotaped psychiatric interview and psychological testing. Each of these evaluations was repeated on the last day of the program. The psychological assessment battery consisted of five instruments: Mississippi Scale

MEASURES

Additional treatment modalities that were used as indicated include spinal manipulation, myofascial release, visceral manipulation, therapeutic massage, acupuncture, acupressure, individual psychotherapy, individual hypnotherapy.

Psychotherapeutic methods are not employed in this process. The experience, so that the energy of the experience can be released, therapist simply encourages the patient to develop the image and, ultimately, the re-experiencing of situations and events which have been suppressed. The often the image will stimulate emotional responses in the patient followed by sation is carried out, which includes the therapist as a third participant. Quite dialogue with the image in order to understand its meaning. Casual conversation is carried out, which includes the therapist as a third participant. Once the image is fixed in place, the patient is encouraged to familiarity with the image in terms of the details of its appearance, its presence patient describes the image, the therapist encourages the development of the patient what is in his or her mind at that precise moment. When the comes to an abrupt halt. When this occurs the CranioSacral Therapist asks conscious awareness of the patient, it is usual that the craniosacral rhythm the patient to perceive images. When a significant image presents to the Cyst Release and Somatic Emotional Release processes, it is very common for Therapeutic Imagery and Dialogue. During CranioSacral Therapy, Energy

encourages the patient to express whatever he/she is feeling. This encouragement by the therapist is done through intentioned touch, encouraging bodily positions that are subtly suggested by the patient, and by soft, supportive (non-intellectual) verbal encouragement. When the process is flowing effectively, the craniosacral rhythm is at a standstill. Ultimately, the patient will re-experience emotionally significant previous experiences, and thus clear a lot of suppressed memory and emotion. Somatic Emotional Release has proven to be extremely effective in this patient sample.^{1,2,3,4,5}

for Combat Related Post Traumatic Stress Disorder (Mississippi), Trauma Symptom Inventory (TSI), Quality of Life Questionnaire (QOL), Brief Symptom Inventory (BSI), and Beck Hopelessness Scale (BHS). All five instruments were administered on the first day of the program. The BSI and BHS were administered on the last day of the program. The BSI and BHS were also administered one month post treatment, and the entire assessment battery will be given six months post treatment.

INSTRUMENTS

The Mississippi Scale (Mississippi) was developed by Terrance Keane, Ph.D., at the Veterans Administration Medical Center, Boston Common, Massachusetts, and Tufts New England Medical Center.⁶ It is a 35-item self-report scale derived from the Diagnostic and Statistical Manual of Mental Disorders III criteria for PTSD. Designed as a standardized assessment instrument to improve the identification of PTSD, the Mississippi Scale has been widely used with combat veterans.

The Trauma Symptom Inventory (TSI) is a 100-item test of Post Traumatic Stress and other psychological sequelae of traumatic events. It was developed by John Briar, Ph.D.⁷ The TSI is intended for use in the evaluation of acute and chronic traumatic symptomatology including, but not limited to, the effects of war and combat, physical assault, accidents and disasters, rape and spousal abuse, as well as the lasting sequelae of early traumatic events. The TSI assesses a wide range of psychological impacts, including symptoms typically associated with Post Traumatic Stress Disorder, acute stress disorder, and the intra- and interpersonal difficulties associated with chronic psychological trauma. The test is comprised of three validity scales and 10 clinical scales as follows:

Validity Scales	Consistent Response
Response Level	Atypical Response
Anxious Arousal	Depression
Clinical Scales	Anger/Irritability
	Intrusive Experiences
	Defensive Avoidance
	Dissociation
	Sexual Concerns
	Dysfunctional Sexual Behavior

Global Indices	Symptom Dimensions
Global Severity Index	Somatization
Positive Symptom Total	Obsessive-Compulsive
Positive Symptom Distress Index	Interpersonal Sensitivity
	Depression
	Anxiety
	Hostility
	Phobic Anxiety
	Paranoid Ideation
	Psychoticism

The Brief Symptom Inventory (BSI) is a 53-item self-report measure designed to reflect the psychological symptom patterns of psychiatric and medical patients, as well as non patients.⁹ The BSI is a shortened version of the Symptom Check List-90-R and was designed to reduce administration time for effective use in clinical situations in which multiple outcome measures are employed. Research has indicated that the shortened scales provide effective operational definitions of each symptom construct. The BSI includes nine symptom dimensions and three global indices as follows:

Material Well Being	Altruistic Behavior
Physical Well Being	Extramarital Relations
Personal Growth	Extended Family Relations
Marital Relations	Parent/Child Relations
Occupational Relations	Job Satisfiers
Job Characteristics	Political Behavior
Creative-Aesthetic Behavior	Job Characteristics
Sports Activity	Occupational Relations
Vocational Behavior	Job Satisfiers
Social Desirability (i.e., validity scale)	Job Characteristics

The Quality of Life (QOL) questionnaire is a 192-item self-report measure designed to assess the quality of life across a broad range of specific areas.⁸ QOL is predicated on the theory that certain actions or behaviors of an individual in response to particular environmental domains can represent quality of life. This test is a multidimensional measure of an individual's behavior in several domains of life, and can be used to evaluate the impact of treatment programs upon personally experienced quality of life. The test domains include the following:

Impaired Self Reference
Tension Reduction Behavior

aw scores from the scales of each instrument administered before and after the treatment program were analyzed using *t*-tests for correlated samples.¹² One tailed-test using $p > .01$ and 21 degrees of freedom were the statistical methods employed. The critical value of *t* was 2.518, and for descriptive purposes, comparisons were made using outpatients psychiatric norms for each instrument.

Brief Symptom Inventory: Each of the 12 scales of the BSI showed statistically significant improvement at the end of the two-week treatment program. Table I provides pre- and post-test means for each scale, as well as corresponding *t* values.

Global Severity, Positive Symptom Total, and Positive Symptom Distress Index. Each of the overall measures of psychopathology on the BSI showed significant reductions following treatment. The overall sensitivity of the BSI profiles were significantly reduced, as were the number of symptoms reported and the distress resultant from those symptoms. When compared to outpatient psychiatric norms, the overall severity of symptoms dropped from the 86th percentile to the 38th percentile, the total number of symptoms was

STATISTICAL ANALYSES

The Craniosacral Evaluation (CSE) is a physical examination designed to assess the degree of restriction to motion present in each of 19 motion patterns associated with the craniosacral system and, in particular, related to the occiput, temporal bones, sphenoid basilar joint and sacrum.¹¹ Range of motion, bilateral equality, and ease or restriction to motion, as initiated by the examiner, are evaluated. Additionally, the Cranial Rhythmic Impulse (CRI), an involuntary physiologic and rhythmic pulse of the craniosacral system, is measured.

The Beck Hopelessness Scale (BHS) is a 20-item self-report instrument designed to measure the extent of pessimism or negative expectations about the immediate and long-range future.¹⁰ Negative attitudes concerning oneself and one's future contribute to feelings of hopelessness. Hopelessness is a psychological construct observed to underlie a variety of mental health disorders, and may affect response to treatment. Additionally, it is a component of Beck's cognitive model of depression.

Interpersonal Sensitivity. The nature of this scale centers on feelings of personal inadequacy and inferiority, particularly in comparison with others. Discomfort with interpersonal interactions is also characteristic of this syndrome. Social discomfort and inferiority as measured by this scale

Obsessive-Compulsive. Test items on this scale focus on thoughts, impulses and actions that are experienced as unremitting and irresistible by the individual, and are of an unwanted nature. Experiences of a more general cognitive deficit are also included. Scores on this scale fell from the 86th percentile before treatment to the 46th percentile following treatment. Statistical significance exceeded .01.

Somatization. This scale reflects the stress that arises from perceptions of bodily dysfunction. Pain and discomfort of gross musculature and somatic equivalence of anxiety are included. A significant improvement was noted following treatment, with the level of reported distress falling from the 92nd percentile to the 73rd percentile. Statistical significance exceeded .01.

reduced from the 82nd percentile to the 42nd percentile, and the level of distress reported from these symptoms dropped from the 79th percentile to the 21st percentile. Statistical significance exceeded .01.

Scale	Pre-Test Mean	Post-Test Mean	t value
Somatization	1.77	0.96	4.203
Obsessive-Compulsive	2.79	1.34	7.272
Interpersonal Sensitivity	1.45	0.69	2.935
Depression	2.21	0.74	6.0
Anxiety	2.32	1.22	4.024
Hostility	2.06	0.52	5.301
Phobic Anxiety	1.59	0.78	3.620
Paranoid Ideation	1.71	0.71	4.387
Psychoticism	1.76	0.85	4.324
Global Severity Index	2.03	0.9	6.121
Positive Symptom Total	40.64	28.45	4.109
Positive Symptom	2.54	1.52	6.045
Distress Index			

Table I
Brief Symptom Inventory

The aforementioned descriptions of the BSI results involved comparisons of the intensive treatment program subjects to psychiatric outpatients. This is in

Psychoticism. This scale represents a continuum from mild alienation to traumatic psychosis. Included items indicate a withdrawn, isolated and schizoid lifestyle; first order symptoms of schizophrenia are also included. Scores on this scale fell from the 73rd percentile before treatment to the 46th percentile after treatment. Statistical significance exceeded .01.

Paranoid Ideation. This scale's items are designed to measure the presence of a disordered mode of thinking characterized by projection, hostility, suspiciousness, grandiosity, fear of losing autonomy, and delusions. Scores on this scale reflected substantial improvement and fell from the 76th percentile to the 46th percentile following treatment. Statistical significance exceeded .01.

Phobic Anxiety. The presence of a persistent fear response to a specific person, place, object or situation that is irrational and disproportionate to the stimulus, and that leads to avoidance, is measured by this scale. The focus of the scale is more on the disruptive manifestations of phobic behavior. This type of anxiety diminished from the 84th percentile before treatment to the 62nd percentile following treatment. Statistical significance exceeded .01.

Hostility. Defined as thoughts, feelings and actions that are characteristic of anger, this scale's test scores diminished from the 62nd percentile before treatment to the 31st percentile following treatment. Statistical significance exceeded .01.

Anxiety. Measures of general signs of anxiety, such as nervousness and tension as well as panic attacks and somatic correlates of anxiety, are included on this scale. Scores of anxiety fell from the 79th percentile pre treatment to the 42nd percentile post treatment. Statistical significance exceeded .01.

Depression. Scale items reflect a representative range of indications of clinical depression, including dysphoria, mood, lack of motivation, and a loss of interest in life. Scores on depression fell from the 69th percentile to the 27th percentile following treatment. Statistical significance exceeded .01.

dropped from the 54th percentile pretreatment to the 24th percentile following treatment. Statistical significance exceeded .01.

the representative norm group. Using this norm group, before treatment, the vets' distress and dysfunction were above average on all scales except one: interpersonal sensitivity. After treatment the vets were below average on all scales except two: somatization and phobic anxiety. Clearly, improvement was quite significant.

Beck Hopelessness Scale. Scores on the Beck Hopelessness Scale fell from an average of 11 before treatment to 3 following treatment. In clinical practice, scores of 9 or more are used to indicate serious hopelessness. A score of 4 is expected in the general population. The vets went from having pre-test scores characteristic of hopelessness, suicidal ideation, and predictive of suicide attempts, to having scores typical of the general population. Thirteen vets had scores above 9 before treatment, one had a score above 9 after treatment. (That individual's score dropped from 17 to 10.) Nineteen out of 22 scores dropped, two remained the same (scores of 1 and 2) and one score increased (from 4 to 5). Marked decreases in pessimism are indicated, and it seems safe to conclude the treatment group felt considerably more hopeful at the programs' conclusion. Statistical significance exceeded .01.

CranioSacral Evaluation. The craniosacral evaluations were done hands-on by CranioSacral Therapists. Each of the motion variables was manually tested for restriction versus ease of motion for each of the bones named in Table II. These motion tests are subjective, but they are carried out by therapists who have gained a great deal of expertise by evaluating hundreds of crania with a wide variety of problems and/or no problems. They know inherently the "feel" of a bone possessing healthy mobility.

Each of the 19 motion variables of the CranioSacral Evaluation showed statistically significant improvement ($p > .01$) upon completion of the two-week treatment program. The post-treatment measure of the Cranial Rhythmic Impulse also demonstrated a statistically significant improvement ($p > 0.1$). Table II identifies the 19 variables by location and restriction pattern, and provides pre and post-treatment means for each variable as well as for the Cranial Rhythmic Impulse. A score of 1 on the motion variable indicates no restriction to motion. A score of 3 indicates severe restriction of long standing. A score of 2 signifies a significant restriction to motion, which may be transient.

Prior research and clinical experience has suggested that restrictions within the 19 motion variables (individually or in various combinations) assessed by the CranioSacral Evaluation are associated with specific physical and/or psycho-emotional symptom patterns (i.e., head, neck and body pain; motor coordination problems; colic and other gastrointestinal difficulties; scoliosis; fibromyalgia and chronic fatigue; ADD and ADHD; depression; and stress and anxiety disorders). It was not the purpose of this research to correlate specific restriction patterns with the myriad symptoms of PTSD. Rather, our goal was to determine if an intensive treatment program of CranioSacral Therapy and its related techniques would demonstrate itself to be effective in reducing PTSD symptomatology. Further research is needed to determine if particular

Table II
CranioSacral Evaluation Results

Motion Variables	Pre-Test Mean	Post-Test Mean
Occiput Right Restriction	2.25	1.0
Occiput Left Restriction	2.51	2.0
Temporal Bones Right Restriction	2.33	1.68
Temporal Bones Left Restriction	2.34	1.70
Sphenoid Extension Lesion	2.52	1.58
Sphenoid Flexion Lesion	2.05	1.63
Sphenoid Left Side Bending	2.10	1.88
Sphenoid Right Side Bending	2.05	1.60
Sphenoid Left Torsion Lesion	2.14	1.69
Sphenoid Right Torsion Lesion	2.05	1.55
Sphenoid Compression-Decompression	2.00	2.00
Sphenoid Left Lateral Strain Lesion	2.08	1.61
Sphenoid Right Lateral Strain Lesion	2.30	1.70
Sphenoid Inferior Vertical Strain Lesion	2.02	1.64
Sphenoid Superior Vertical Strain Lesion	1.86	1.73
Sacrum Extension Lesion	2.36	1.73
Sacrum Flexion Lesion	2.36	1.80
Sacrum Left Torsion Lesion	2.44	1.85
Sacrum Right Torsion Lesion	2.35	1.88
CranioSacral Rhythm (cycles per minute)	8.91	6.82

An increasing willingness to trust the therapists

An increasing willingness to disclose and explore traumatic events and memories previously suppressed (sometimes for 30 years)

A repair and healing of many physical symptoms

A marked diminishment of suicidal and depressive ideation replaced by a tentative willingness to entertain a more hopeful and positive outlook about the future

During the first week of the program the following changes began to gradually occur in the patients:

The therapists chosen to work with this population were experienced and seasoned. They have varied professional backgrounds. They tend to be mature adults who have strong spiritual beliefs and practices. They approach their work with intensity, integrity and compassion. A nonjudgmental attitude and a respect for human dignity is characteristic of their approach to patients. This respect, compassion and loving attitude is palpable in the way the therapists interact with their patients, both in and out of the formal program.

On the first program day, most of the participants were edgy, suspicious, and restless—not knowing what to expect. They shared very little. Many wondered whether their decision to come was a good one and whether their efforts would be worthwhile. Dr. Upledger spent considerable time and effort explaining how he became interested in the plight of the Vietnam vets, and what his motivations were and, more importantly, were NOT. The presence of four therapists who were themselves Vietnam vets, and had benefited from a similar program, helped to reassure the patients.

PSYCHIATRIC OBSERVATIONS

All craniosacral restriction patterns are specific to the symptoms of PTSD. All motion variables assessed showed substantial improvement post treatment. Statistical significance exceeded .01.^{12,13}

An acceptance of suggestions to improve their physical health. Several modified their eating habits toward more nutritious food intake and began using supplemental vitamins and minerals in their daily diets. Some slowly cut the amount of psychotropic medication they were taking (often much more than was prescribed). Two even tried to stop smoking but were unsuccessful.

A marked willingness toward greater self-disclosure. The participants articulated and shared fears openly about returning home to their pre-program environments. They discussed ways of holding on to newly found emotional stability. The anticipation of leaving was a frightening thought for all, and ways of maintaining contact with the program were outlined.

An even greater willingness to explore new behaviors - particularly regarding the letting go of hypervigilant behavioral expressions which had been solidly in place for so long. Two participants gave up the guns they had carried with them constantly. Another threw away the knife he slept with under his pillow.

The return of motivation to create artistically—some wrote poetry, some drew pictures, and some wrote short essays about their treatment experience and self-perceived changes. One spontaneously sang a song on the last day of the program.

By the end of the second week these trends had usually grown stronger. We began to notice:

As the first weekend break approached, many vets entertained ways of exploring their gradually developing social skills and positive attitudes. Some contacted old friends they had not spoken to for years. Others explored social activities together in and around the Palm Beach area. Some decided to gradually try to wean themselves off heavy doses of psychotropic medications.

Improved concentration and reasoning capacity

Significant lessening of hypervigilance, sleep problems, nightmares and flashbacks

The expansion of range of affect; in particular, a blossoming ability to display loving feelings toward their comrades and therapists

The described clinical study offers strong support in favor of the efficacy of the use of Craniosacral Therapy, Energy Cyst Release, SomatoEmotional Release, and Therapeutic Imagery and Dialogue as the principle therapeutic modalities used in a favorable ambience which focused upon the development of trust between patients and therapists. External pressures were minimized as much as possible in that breakfast and lunch were provided at an informal buffer without time constraints or regimentation. Travel between the treatment facility and the place of lodging was provided. The motel, which was furnished for the veterans, is oceanside, only two floors high, has no elevators, nor is there a lobby which must be passed through in order to obtain access to the rooms. It is a very friendly, family-run business. This relaxed atmosphere promoted a feeling of friendliness between all persons involved: the veterans, the therapists, the Upledger Institute staff, etc. The treatment processes were conducted all in one large, casually decorated room with two walls being largely windows from which nearby trees are the major sights, which also induced a more relaxed state in the veterans. Further, as the veterans individually approached difficult memories and re-experiencing, the other veterans often connected with them in order to offer support as they brought their suppressed materials into conscious awareness and processed it. In this setting the veterans and therapists alike were almost literally serving as a cheering section for the veteran in need of support at any given time.

DISCUSSION AND CONCLUSIONS

During the two weeks of the program, the staff and patients bonded strongly. Staff, in sharing their feelings about pertinent issues both during the morning groups and individually, modeled self-disclosure. Each participant was seen in psychotherapy sessions approximately twice during the program. Sometimes they were seen more often if they seemed to require it. If a vet was married, an attempt was made to contact the spouse and bring her or him into the sphere of treatment so as to diminish as much as possible the feeling of being an outsider, or of not being included. The vets would frequently comment that they could "feel the presence of love in the room." Both staff and patients felt that the human-to-human bonds that were formed were an important aspect that facilitated the positive responses to Craniosacral Therapy.

The results of the pre and post-treatment psychological tests, the interviews by the psychiatrist, the craniosacral system evaluations, and the self-statements by the veterans, all support the benefit received from the two-week intensive treatment programs.

A significant number of the veteran participants have lived in relative isolation for many years. It is clear that these veterans would benefit from follow-up treatment programs which focus upon "socialization lessons," as well as CranioSacral Therapy on a much less intensive basis, perhaps for an hour every week or two. The frequency would have to be determined by the therapist for each individual.

This clinical research also suggests that similar treatment programs might be efficacious for a wide variety of PTSD patients with different etiologies, such as kidnappings, sexual abuse and rape, disaster victims involved in plane crashes, auto accidents and the like. There is an abundance of anecdotal reports of successes coming from CranioSacral Therapists in private practice that describe clinical improvement in children and adults who have been suffering PTSD sequelae related to a wide variety of terror-inducing experiences.

In as much as the risk factor is extremely low, the aforementioned therapeutic approach to the treatment of PTSD seems well worthwhile. The program is quite labor intensive, but given the fact that the veteran participants had each been suffering for many years while undergoing more conventional treatment programs, it seems well worth the effort. The CranioSacral Therapy intensive treatment program seems to restore potential and hope for these patients. Some will require socialization training in order to re-enter society. The intensive treatment program makes it possible for them to benefit from socialization training and thus enhance the quality of their lives.

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