

## **Pilot Research Study on the Provision of the EMDR Integrative Group Treatment Protocol with Female Cancer Patients**

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The purpose of this research was to evaluate the effectiveness of the Eye Movement Desensitization and Reprocessing (EMDR) Integrative Group Treatment Protocol (EMDR-IGTP); in reducing Posttraumatic Stress Disorder (PTSD) symptoms related to the diagnosis and treatment of different types of cancer in adult women. EMDR-IGTP intensive therapy was administered for three consecutive days, twice daily, to 24 adult women diagnosed with different types of cancer (cervical, breast, colon, bladder and skin) who had PTSD symptoms related to their diagnosis and treatment. Statistical analysis using General Linear Model and t-tests, comparing the mean scores of the Short PTSD Rating Interview (SPRINT) between each assessment time (pre, post, and two follow-ups); showed a statistically significant improvement after treatment with the EMDR-IGTP for both, patients in the active phase of cancer treatment and patients in the follow-up phase of cancer treatment. Results also showed an overall subjective improvement in the participants. This pilot study suggests that intensive administration of the EMDR Integrative Group Treatment Protocol can be a valuable support for cancer patients with PTSD symptoms related to their diagnosis and treatment. Further research with randomized controlled studies is needed to demonstrate the effectiveness of EMDR-IGTP in this population.

Keywords: EMDR; EMDR Integrative Group Treatment Protocol; Intensive EMDR therapy; Cancer and Posttraumatic Stress Disorder.

Cancer is a term used to describe a physical process in which abnormal cells in the body grow uncontrollably and deregulated to the extent that a mass of cells develop as a tumor. Cancer is harmful to the body as it tends to metastasize throughout the body, to invade and damage the nearby tissues and interfere with the normal functioning of that specific region of tissues.

Cancer is a leading cause of death around the world. There were 14.1 million new cancer cases, 8.2 million cancer deaths and 32.6 million people living with cancer in 2012 worldwide. In the same year 57% of new cancer cases, 65% of the cancer deaths and 48% of the five-year prevalence cancer cases occurred in the less developed regions (World Health Organization, 2014).

Since the fourth edition of DSM-IV-TR (American Psychiatric Association, 2000) the diagnostic criteria for Posttraumatic Stress Disorder (PTSD); specifically includes being diagnosed with cancer - a life-threatening illness, as representative of a traumatic event. Therefore, people with this diagnosis can be considered at risk for PTSD.

Numerous studies have focused on the diagnosis or PTSD symptoms in people with cancer (Perez et al., 2014). Meanwhile the PTSD precipitating factors are usually external and unique events that represent an immediate threat; cancer represents an internal and external stressor that is extended over time. Hence, people diagnosed with cancer may be at risk of developing pathological stress reactions (Kangas, Henry & Bryan, 2002).

Experiencing cancer means a peculiar stressor within the infrastructure of PTSD because it involves a potentially chronic and acute debilitating disease. This experience can be accompanied by a wide range of associated adverse events such as: tumor detection, diagnosis, severity of disease and prognosis; aggressive treatment; disfigurement and bodily dysfunction; side effects of treatment; impaired physical, social and occupational functioning; and sometimes recurrence and diagnosis of terminal illness.

Since 1994, studies have shown that individuals exposed to prolonged, repeated or multiple stressful events; are more likely to show PTSD symptoms compared to individuals who lived one stressful event (e.g. Koopman, Classen & Spiegel, 1994; McFarlane, 1989; Uddo, Allain & Sutker, 1996). Additionally multiple stressors (as in cancer) may exacerbate PTSD reactions due to: a) the initial trauma may lower a person's coping resources to address subsequent stressors, and b) that person may be suffering clinical or subclinical PTSD when new stressors appear (Freedman, Brandes, Peri & Shalev, 1999).

A study conducted by Smith et al. (2011) at Duke Cancer Institute, which had an average of 12.9 years follow-up, showed that PTSD intensifies with time, instead of decreasing. Their conclusion was that time does not heal this disorder. Nowadays, there is not a specific therapeutic approach to treat PTSD symptoms in cancer patients except for EMDR therapy (Capezzani et al., 2013).

### **EMDR Therapy.**

The World Health Organization (2013), and numerous international guidelines, such as Cochrane Review recommend Eye Movement Desensitization and Reprocessing (EMDR) Therapy for treatment of Posttraumatic Stress Disorder in children, adolescents and adults (Bisson & Andrew, 2007). This therapy, developed by Dr. Francine Shapiro (Shapiro, 2001), is a comprehensive approach to treatment of trauma, adverse life experiences or psychological stressors.

### **EMDR Therapy administered to cancer patients.**

In a pilot study conducted by Capezzani et al. (2013) in patients with cancer and Posttraumatic Stress Disorder (PTSD), the results showed that EMDR Therapy was significantly more effective than Cognitive Behavioral Therapy (CBT). Its effectiveness was observed in reducing the scores on the Impact of Event Scale Revised (IES-R) and on the Clinician-Administered PTSD Scale (CAPS), for both, patients in the active phase of cancer treatment and patients in the follow-up phase of cancer treatment.

The most significant result obtained from this study is that most of the patients, both in the active and in the follow-up phase, of cancer treatment treated with EMDR therapy could overcome their PTSD diagnosis after 8 sessions of therapy. On the contrary, most patients in the same phase of active cancer treatment treated with CBT maintained the PTSD diagnosis a month after finishing therapy.

### **EMDR Integrative Group Treatment Protocol**

The EMDR Integrative Group Treatment Protocol (EMDR-IGTP) for early intervention was developed by members of the Mexican Association for Mental Health Support in Crisis (AMAMECRISIS), when they were overwhelmed by the extensive need for mental health services after Hurricane Pauline ravaged the coasts of Oaxaca and Guerrero in 1997 (Jarero & Artigas, 2009).

The protocol combines the 8 phases of the EMDR Individual Therapy treatment (Shapiro, 2001); in a group therapy model and an art therapy format (e.g., drawings). It uses the Butterfly Hug (Artigas & Jarero, 2014), as a self-administered bilateral stimulation. This protocol is also known as the Group Butterfly Hug Protocol, the EMDR Group Protocol and the Children's EMDR Group Protocol.

This protocol was originally designed to work with children (Artigas, Jarero, Alcalá & López Cano, 2014) and was later modified for its use on adults (Jarero & Artigas, 2014). The protocol has shown favorable results when compared to other group treatment models in terms of time, resources and outcomes (Adúriz et al., 2009). It has been used in its original format or with adaptations; to suit cultural circumstances in numerous settings around the world (Gelbach & Davis, 2007; Maxfield, 2008), and with thousands of survivors of natural or man-made disasters (Jarero & Artigas, 2012).

Anecdotal reports (Gelbach & Davis, 2007; Luber, 2009; Luber & Shapiro, 2009); nine pilot studies with children and adults after natural disasters in Mexico, Nicaragua, El Salvador, Colombia and Venezuela (Artigas et al., 2000; Jarero et al., 1999; Jarero, Artigas & Hartung, 2006); case reports and field studies, have documented their effectiveness with children and adults survivors of natural or man-made disasters, during war trauma, ongoing geopolitical crisis, refugee children in ongoing war, people who have suffered work-related accidents and are diagnosed with acute stress disorder, children and adolescents victims of severe interpersonal violence, and with Latin American armed forces (Adúriz, Knopfler & Blüthgen, 2009; Aránguiz & Cattoni, 2013; Adúriz & Salas, 2014; Birnbaum, 2007; Chung et al., 2014; Errebo, Knipe, Forte, Karlin, & Altayli, 2008; Fernandez, Gallinari, & Lorenzetti, 2005; Jarero & Artigas, 2010; Jarero, Artigas & Hartung, 2006; Jarero, Artigas & Montero, 2008; Jarero, Roque-Lopez & Gomez, 2013; Jarero, Roque-López, Gómez & Givaudan, 2014a; Jarero, Roque-López, Gómez & Givaudan, 2014B; Jarero, Artigas, Uribe, Garcia, Cavazos & Givaudan, 2014; Jarero, Uribe, Miranda and Givaudan, 2014; Korkmazlar-Oral and Pamuk, 2002; Mehrotra et al., 2013; Mehrotra, 2014; Monteiro, 2014; Salas, 2014; Wilson, Tinker, Hoffmann, Becker & Marshall, 2000; Zaghrou- Hodali, Alissa, & Dodgson, 2008).

## **Protocol Adaptation**

Within the context of psycho-oncology literature, Morasso (2002) considers people with cancer interconnected to a series of crises that occur during the course of the disease and/or that involve changes in the environmental ecosystem surrounding the patient. For this reason, the EMDR-IGTP for early psychological intervention with adults was adapted to treat an adult population living continued traumatic stress, related to the diagnosis and treatment of cancer. The adaptations had the objective of treating in a group therapy format an original critical incident (cancer diagnosis), where stressful events (treatments) had continued for a long period of time and where there had not been a post-trauma safety period (no participant had been discharged).

To Jarero & Uribe (2011, 2012) acute trauma situations are not only related to a time frame (days, weeks or months), but to a post-trauma safety period as well. Their hypothesis is that the continuum of stressful events with similar emotions and somatic, sensorial and cognitive information; does not give the state-dependent traumatic memory sufficient time to consolidate into an integrated whole. Thus, the memory networks remain in a permanent excitatory state, expanding with each subsequent stressful event to the original critical incident, analogous to ripples from a rock falling in the middle of a lake. The risk of PTSD and comorbid disorders would therefore grow with the number of exposures.

## **Method**

The purpose of our research was to evaluate the effectiveness of the EMDR Integrative Group Treatment Protocol to reduce the symptoms of Posttraumatic Stress Disorder related to the diagnosis and treatment of different types of cancer in adult women.

The research protocol was reviewed and approved by the Latin American and Caribbean Foundation for Psychological Trauma Research review board to ensure that the research quality of this study fulfilled the following Revised Gold Standard (RGS) scale (Maxfield & Hyer, 2002) items: GS: Clearly defined target symptoms, GS2: Reliable and valid measures, GS3: Use of a qualified not blind independent evaluator, GS4: Assessor reliability, GS5: Manualized treatment, GS6: There was not a random assignation of participants, GS7: Treatment fidelity, GS8: No confounded conditions, GS9: Self-report measure only, and GS10: Length of treatment for participants with single trauma (civilians). All participants gave written informed consents.

## **Participants**

This pilot study was conducted in the city of Monterrey, Mexico; in the “Pink Cross Shelter” facilities, where low-income adult women live during their cancer treatment. Participants included 24 adult women diagnosed with different types of cancer (cervical, breast, colon, bladder and skin) and with PTSD symptoms related to their diagnosis and/or cancer treatment. Participants age ranged from 36 to 68 years old (mean = 54.16 years). Time since diagnosis July 2006 to October 2013.

Inclusion criteria were: (a) 18 years old or older, (b) diagnosis of cancer, (c) be in the active or follow-up phase of cancer treatment, (d) with PTSD symptoms related to the diagnosis and/or cancer treatment, (e) had not received or were not receiving specialized trauma therapy and (f) had not received or were not receiving drug therapy for the PTSD symptoms. Exclusion criteria were: (a) ongoing suicidal or homicidal ideation, (b) diagnosis of psychotic

or bipolar disorder, (c) organic mental disorder, (d) substance abuse, (e) significant cognitive impairment. Participation in this study was voluntary and there were no dropouts.

## Measures

### Short PTSD Rating Interview (SPRINT)

The Short PTSD Rating Interview (SPRINT; Connor & Davidson, 2001; Vaishnavi et al., 2006) is an eight-item interview or self-rating questionnaire with solid psychometric properties that can serve as a reliable, valid, and homogeneous measurement of PTSD illness severity and global improvement, as well as a measure of somatic distress, stress coping, and work, family and social impairment.

Each item is rated on a 5-point scale: *not at all* (0), *a little bit* (1), *moderately* (2), *quite a lot* (3), and *very much* (4). Scores between 18 and 32 correspond to marked or severe PTSD symptoms, from 11 to 17 to moderate symptoms; from 7 to 10 to mild symptoms and scores of 6 or less indicate either minimal or no symptoms.

SPRINT also contains two additional items to measure global improvement according to percentage of change and severity rating. SPRINT performs similarly to the Clinician-Administered PTSD Scale (CAPS), in the assessment of PTSD symptoms clusters and total scores. It can be used as a diagnostic instrument (Vaishnavi, Payne, Connor, & Davidson, 2006).

It was found that in the SPRINT, a cutoff score of 14 or more carried out a 95% sensitivity to detect PTSD and 96% specificity for ruling out the diagnosis, with an overall accuracy of correct assignment being 96% (Connor & Davidson, 2001).

## Procedure

The recruitment of participants took place from February 1st to February 21, 2014 at the “Pink Cross Shelter” facility in Monterrey, Mexico. This process was held in two stages. In the first stage, a qualified not blind independent assessor explained the purpose of the research to the interested women, as well as inclusion and exclusion criteria. In the second stage, the same assessor obtained the informed consents, the clinical history of each participant (Phase 1 of the EMDR therapy treatment) and applied the SPRINT (pre-post treatment and two follow-up measurement) to all the participants who learned about the research and met the inclusion criteria (n=24).

From February 27th to March 1st, 2014, the EMDR Integrative Group Treatment Protocol was administered on six occasions, twice daily. Between March 10 and March 13, 2014, the post-treatment assessment was conducted. The first follow-up assessment was performed 30

days after post-treatment, from April 2<sup>nd</sup> to April 5<sup>th</sup>, 2014. The second follow-up was conducted 90 days after treatment, from June 2<sup>nd</sup> to June 4<sup>th</sup>, 2014.

## **Treatment**

In the present study, intensive EMDR therapy (Abel, 2011; Grey, 2011; Jarero, Roque-López, Gómez & Givaudan, 2014b; Wesson & Gould, 2009) was administered to one group with all 24 participants for three consecutive days twice daily. The first group session lasted 1:42 hours. The next 5 group sessions had an average duration of 45 minutes since they started in Phase 3 of the protocol, as it was not necessary to repeat Phases 1 and 2.

After the first follow-up, EMDR Individual Therapy was administered to two participants from the follow-up phase of the cancer treatment group, who obtained scores above the SPRINT cutoff of 14 (15 and 18 respectively). The first participant received one individual therapy session and the second participant received five individual therapy sessions with the standard EMDR Protocol.

The administration of the EMDR-IGTP was held by two EMDR Institute and EMDR-Ibero-America Senior Trainers of Trainers and one Trainer, also including, an Approved Consultant and a Certified EMDR Therapist. The EMDR-IGTP for early intervention with adult's authors (Jarero & Artigas, 2014) recommends a ratio of 1 team member for 8 to 10 participants. The decision to have 5 EMDR clinicians for this pilot study was made in order to have enough clinicians to be aware of all of the participant's emotional reactions and help them when necessary. The Certified EMDR Therapist administrated the individual protocol to two participants following the EMDR-Institute manual. Treatment fidelity was fulfilled by strict observance to all steps of the scripted EMDR-IGTP and the EMDR Therapy Standard Protocol.

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## **Statistical Analysis**

Based on the design of this study, a General Linear Model (GLM) for repeated measures was applied; so the effects of EMDR-IGTP in SPRINT scores could be evaluated. The two main reasons for using repeated measures were to (a) increase the statistical power and, (b) to know the effect of the treatment over time. Besides the GLM, a series of t-tests were performed,

comparing the SPRINT mean scores between each assessment time; pre, post and follow-ups.

## **Results**

Results are presented in two sections. First section, describes the qualitative and clinical information. The second section, present the statistical data analysis.

### *Pre-treatment Phenomenological Data*

#### *Symptoms*

During the phase of history taking (Phase 1), participants described disturbances associated with the following symptoms:

Flashbacks and intrusive images: (e.g. when a patient realized she did not have breasts after the surgery; the first time she received chemotherapy; the discussion of her case between doctors; the face of her friends feeling pity for her; the real event of seeing her husband abandoning her; lying on the street on her way home; suffering the side effects of chemotherapy; her son's tears after seeing her shaved and thin as a corpse).

Flash-forwards: (e.g. visualizing unable to walk in the future; receiving the diagnosis of the cancer coming back; fear that the wound would be infected and worms coming out from it; imagining receiving chemotherapy again and suffering its side effects; imagining herself dying alone).

Nightmares: (e.g. seeing her mother who is already dead, asking the patient to come with her; seeing her dead husband mocking her; being at the hospital in a pool of blood flowing from her vagina; the cancer returns and she receives chemotherapy again; seeing her face in a mirror as a corpse, because she has little time left to live).

Cognitive Symptoms: Repetitive thoughts (e.g. "I'm crippled", "people want to see the surgery of my breast", "people see me as a freak", "I'm disfigured", "I have little time to live"). Catastrophic thoughts: (e.g. doctor informing her that the cancer has metastasized; the disease returns with more strength; or to die with great suffering). Wishes to be dead: (e.g., "I want to die so I can stop suffering", "If I die now my children will not suffer so much"). Difficulty concentrating and memory problems.



Avoidance: of disturbing memories; of places or people that evoke their illness or its consequences, of the removal of their breasts or the loss of hair (e.g. "I try not to think of cancer", "I don't want to be seen with my head bald", "I do not want to be seen with pity" , "I don't want to be asked to show my mutilated breast because of morbid curiosity", "I avoid my friends because they ask me a lot of questions about how I feel", "I avoid thinking that the cancer may return", "I don't want to remember when I was bald").

Emotional Symptoms: (e.g. fear, anguish, sadness, despair, loneliness, anger, guilt, worry, anxiety, uncertainty, hopelessness, helplessness.)

Physical Symptoms: (e.g. dizziness, headaches, pain in the arm where the chemotherapy was applied, pain in the surgery wound, exhaustion, loss of taste, loss of appetite, significant weight loss, shortness of breath, choking, nausea, vomiting, diarrhea, inflammation, atrophy in the legs, insomnia, sleep without rest, irregular heartbeat).

Behavioral symptoms: (e.g. uncontrollable crying; compulsively seeing in the mirror the place of the breast surgery; compulsive avoidance of all mirrors to elude seeing herself bald; isolation of all people, even the loved ones; fear that any food can cause the return of cancer; not wanting to bathe; increased consumption of cigarettes; avoidance of sex because of shame to be seen mutilated).

Spiritual Symptoms: (e.g. believe that illness is a punishment from God; getting away from God and religion; anger at God; questioning the existence of God; spiritual approach in the search for solutions; maladaptive increase in her faith in God).

### *Negative Beliefs*

Negative beliefs were also expressed by the participants during history taking phase (Phase 1) of the study, such as: "*I am different*", "*I am insignificant*", "*I should have done something*", "*I did something bad*", "*I'm not lovable* ", "*I'm a bad person and that's why I've got cancer*", "*I should have known*", "*I am ruined forever* ", "*I'm stupid, so I didn't noticed the disease*", "*I'm ugly because my body is disgusting*", "*I deserve only bad things*", "*I'm not good enough and so I haven't healed*", "*Everybody feels pity for me*".

### **EMDR Therapy treatment effects**

*EMDR Therapy Treatment effects in the active phase of cancer treatment participants.*

A significant treatment effect with the EMDR therapy was observed in 17 women who were in the active phase of cancer treatment. This was reflected in the SPRINT Scale; the results obtained were:  $F(1, 16) = 121.22, p < .000$ . When analyzing the means between each measure, statistically significant differences were found between the pre-treatment and post-treatment measure administered one week after treatment:  $t(16) = 10.91, p < .000$ . Also, significant differences between the post-treatment measure and the first follow-up measure, obtained one month after treatment were found:  $t(16) = 5.349, p < .000$ .

No significant differences in this group were found when comparing the first follow-up measure against the scores of the second and final follow-up, obtained three months after the treatment:  $t(16) = .052, p < .959$ . See Table 1.

Measure Comparison	t	Gl	Sig
Pre-treatment - Post-treatment	10.912	16	.000
Post-treatment - First Follow-up	5.349	16	.000
First Follow-up – Second Follow-up	.052	16	.959

**Table 1. Measure Comparison of the participants in the active phase of cancer treatment**

*EMDR Therapy treatment effects in the follow-up phase of cancer treatment participants*

A significant treatment effect with the EMDR therapy was also observed in 7 women who were in the follow-up phase of cancer treatment. This was reflected in the SPRINT Scale, the results obtained were:  $F(1, 6) = 20.592, p < .004$ . As with the previous group, a series of t-tests were performed comparing the mean scores. Significant differences were found only when comparing the pre-treatment with post-treatment measures:  $t(6) = 4.292, p < .005$ . No significant differences between the scores of the post-treatment and the first follow-up measures were obtained; neither significant difference between the first and second follow-up were found. However; it is observed that scores continue decreasing. These findings might be due to small sample size ( $n = 7$ ) as seen on Table 2.

Measure Comparison	t	Gf	Sig.
Pre-treatment - Post-treatment	4.292	6	.005
Post-treatment – First Follow-up	1.162	6	.289
First Follow-up – Second Follow-up	2.265	6	.064

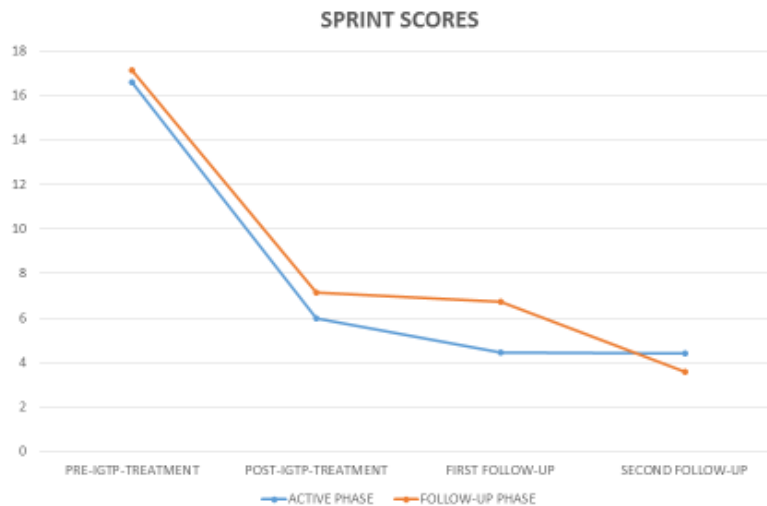
**Table 2. Measure Comparison of the participants in the follow-up phase of cancer treatment**

*EMDR Therapy treatment effects in all participants*

When comparing the pre-treatment measures with the first and second follow-up measures of the 24 participants, statistically significant differences in all cases are observed. See Table 3 and Figure 1.

Cancer patients	Mean (SD) at Pre-treatment	Mean (SD) at Post-Treatment	Mean (SD) at 30 days Follow-up	Mean (SD) at 90 days Follow-up	Comparison of Pre and Post	Comparison of Pre and First Follow-up	Comparison Pre and Second Follow-up
Active & Follow-up Treatment Groups N=24	16.75 (5.05)	6.33 (4.18)	5.12 (4.25)	4.16 (4.18)	t(23)=11.103, p<0.0001	t(23)=12.657, p<0.0001	t(23)=12.299, p<0.0001

**Table 3. SPRINT scores means, standard deviation and statistical comparison.**



**Figure 1. SPRINT mean scores pre-post and two follow-ups.**

## Discussion

The purpose of this study was to evaluate the effectiveness of the EMDR Integrative Group Treatment Protocol (EMDR-IGTP), to reduce PTSD symptoms related to the diagnosis and treatment of different types of cancer in adult women.

Statistical analysis using the General Linear Model and t-tests; and comparing the means of the SPRINT scores between each assessment time (pre, post, follow-ups); showed a statistically significant improvement after treatment with the EMDR Integrative Group Treatment Protocol in both groups of patients; those who were in the active phase of cancer treatment and those in the follow-up phase of treatment. The results also showed an overall subjective improvement in the participants.

It was also observed that the effect of the therapeutic treatment was not only maintained over time, but PTSD symptoms continued decreasing in the follow-up phase of the cancer treatment group (Figure 1). It is possible that the PTSD symptoms did not continued decreasing in the active phase of cancer treatment group due the stressful nature of their ongoing treatments.

In the pre-treatment measures both group means were above the SPRINT cutoff score of 14 (16.58 for the active phase of treatment group and 17.14 for the follow-up phase of treatment group). In the second and final follow-up, 90 days after treatment, only one of the four participants in the active phase of cancer treatment group, that received the diagnosis that the cancerous tumor had grown back, showed scores above the SPRINT cutoff score (16 points).

It is important to mention that the EMDR-IGTP does not rule out the EMDR individual treatment, because it is a therapy protocol and also a screening tool. Therefore, EMDR clinicians do not have to choose between group or individual administration when facing a large amount of people needing treatment. We recommend to first use the EMDR-IGTP and administer individual EMDR treatment only to those who require additional support based on the protocol's Phase 8 (Reevaluation and Follow-up) recommendations. Author's clinical observations has showed that one or two applications of the EMDR-IGTP protocol are not enough to achieve the best clinical results. Therefore we suggest six applications in an intensive EMDR treatment format with fidelity to the protocol and using validated measures to obtain reliable results.

This pilot study suggests that intensive administration of the EMDR Integrative Group Treatment Protocol can be a valuable support for cancer patients with PTSD symptoms related to their diagnosis and treatment. Further research and randomized controlled studies are required to demonstrate the effectiveness of EMDR-IGTP in this population.

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