Third Research Study on the Provision of the EMDR Integrative Group Treatment Protocol with Child Victims of Severe Interpersonal Violence

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Innocence in Danger-Colombia.

This study presents the results of the application of the EMDR Integrative Group Treatment Protocol and Individual EMDR Therapy Protocol, to a total of 16 children (2 boys and 14 girls), aged between 9 to 13 years old, who attended a trauma recovery camp. All had been victims of severe interpersonal violence. The 14 girls had been victims of physical violence and rape; some for long periods of time, even years, by family members or acquaintances. One of the girls, as young as 11 years old, contracted a sexually transmitted disease as a result of the rape; another girl, besides of being repeatedly raped by her political grandfather, was blamed by him, for the rape he perpetrated on the younger sister; arguing she was responsible for looking after her. Regarding the two boys, in addition of being victims of physical and emotional violence; one of them witnessed how his father and cousin raped a female cousin; and the other one witnessed the attempted suicide of his father. All children were living with their families, characterized by being dysfunctional (e.g., knife fights between parents). To analyze the effects of treatment, a General Linear Model was used. There were analyzed three measures (pre-treatment, post-treatment and follow-up), obtained in the Subjective Units of Disturbance (SUD) and the Short PTSD Rating Interview (SPRINT) scores. The results showed a statistically significant effect of treatment in the between-subjects test for both the SUD and the SPRINT scores: ($F\ [1,15] = 146.85$, $p < .000$ and $F\ [\ 1,14\ ] = 238.56$, $p < .000$, respectively. The statistical one-way Analysis of Variance (ANOVA) on the effects of treatment in all groups participating in the trauma recovery camps from 2011 to 2013, showed that after EMDR Therapy, participants had no significant differences in the SPRINT scores, this results denotes that the EMDR therapy had similar beneficial effect for all participants. Further research on the application of Group and Individual EMDR Therapy, as part of a multicomponent phase-based treatment for children and adolescents victims of severe interpersonal violence is needed.

Keywords: EMDR Integrative Group Treatment Protocol; EMDR Therapy with pre-adolescents; Interpersonal Violence in pre-adolescents; Complex Trauma.

In a recent study, Nooner et al. (2013) found that even among adolescents who reported symptoms of mild to moderate trauma, there is a measurable positive correlation between trauma symptoms and functional immaturity. This pilot study provides preliminary evidence that the impact of trauma on the brain during adolescence, can affect functional connectivity with the amygdala, even in adolescents with subclinical symptoms of trauma.

Trauma is associated with neurobiological lifelong consequences (Carrion, Wong, & Kletter, 2013). Neuroimaging studies suggest that severe trauma symptoms are associated with deregulation of the amygdala (Weber et al., 2013)

Child abuse can have profound and lasting effects on psychological health. It has been observed that children who have suffered neglect, are more likely to develop psychopathology (Benjet, Borges, Mendez, Fleiz, & Medina -Mora, 2011).

A study found that the 22 % of children who participated, had experienced four or more different kinds of victimization in a single year (Finkelhor, Ormrod, & Turner, 2007), suggesting that the experience of different types of trauma is not uncommon. However, this subgroup of survivors has received little attention in terms of their personal needs (Wamser-Nanney & Vandenberg, 2013).

Research has shown that the longer (chronic) and more often (frequency) a traumatic incident occurs, posttraumatic side effects are more severe and varied (Blaauw, Winkel, Arensman, Sheridan, & Freeve, 2002).

In reference to child sexual abuse, it has been reported to increase the risk of a variety of emotional and behavioral problems, including anxiety, depression, aggression, dissociation, low self- esteem and sexualized behavior (Choi & Oh, 2013).

Courtois & Ford (2009) recommend a multicomponent phase-based approach for the treatment of complex traumatic stress. The first phase of treatment focuses on patient safety, symptoms stabilization and the improvement in basic life competences. The second phase includes exploring traumatic memories, by first reducing acute emotional distress resulting from these memories, and then re-evaluating their meaning to integrate them in a positive and coherent identity.

EMDR Therapy

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

The EMDR Integrative Group Treatment Protocol

The EMDR Integrative Group Treatment Protocol (EMDR-IGTP) for early intervention was developed by members of Mexican Association for Mental Health Support in Crisis (AMAMECRISIS) to overcome the extensive need for mental health services in 1997 after Hurricane Pauline ravaged the western coast of the States of Oaxaca and Guerrero in Mexico.

The protocol is also variously known as the Group Butterfly Hug Protocol, the EMDR Group Protocol, and the Children's EMDR Group Protocol. For detailed instructions and the scripted version see Artigas, Jarero, Alcalá & López-Cano (2009).

This protocol has been used in its original format or with adaptations to suit the cultural circumstances, in numerous places around the world (Gelbach & Davis, 2007; Maxfield, 2008) for thousands of survivors of natural or man-made disasters (Jarero & Artigas, 2012). Anecdotal reports (Gelbach & Davis, 2007; Luber, 2009), nine pilot field studies with both, children and adults, after natural mass 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 its effectiveness with children and adults after natural or man-made disasters, during ongoing war trauma, ongoing geopolitical crisis, war refugee children, work accidents that produce Acute Stress Disorder, rape victims and children victims of severe interpersonal violence (Adúriz, Knopfler, & Blüthgen, 2009; Allon, as cited by F. Shapiro, 2011; Aránguiz & Cattoni, 2013; Adúriz & Salas, 2014; Birnbaum, 2007; Chung et al., (in press); Errebo, Knipe, Forte, Karlin, & Altayli, 2008; Fernandez, Gallinari, & Lorenzetti, 2005; Jarero & Artigas, 2010; Jarero, Artigas, & Hartung, 2006; Jarero, Artigas, & Montero, 2008; Jarero, Roque-López, & Gomez, 2013; Jarero, Roque-López, Gómez, & Givaudán, 2014; Korkmazlar-Oral and Pamuk, 2002; Mehrotra (in press), Monteiro, 2014; Salas, 2014; Wilson, Tinker, Hoffmann, Becker, & Marshall, 2000; Zaghrout- Hodali, Alissa, & Dodgson, 2008).

The preliminary results of an ongoing pilot field study of a new implementation of this protocol with adult cancer patients with severe cancer-related posttraumatic stress symptoms, showed in the post-treatment and the first follow-up assessment at one month a significant reduction in the PTSD symptoms.

Background

First Research Study

The first research study (Jarero, Roque-López, & Gómez, 2013), was conducted in the City of Cali in Colombia from December 1 to 7, 2011. It took place during a recovery trauma camp. Thirty-four children (18 boys and 16 girls), aged between 9 to 14 years participated. All had been victims of severe interpersonal violence (e.g., rape, sexual abuse, physical and emotional abuse, neglect, abandonment). Most (n = 32) were victims of rape or sexual abuse.

One group (n = 19, 11 boys and 8 girls), came from an Institution accredited by the Colombian Institute of Family Well-being. These children had lived in the streets or had been removed from their families for their own problematic behavior. The other group (n = 15, 7 boys and 8 girls), lived with their families and were victims of rape, sexual abuse and physical and emotional violence. None of the children had received previous specialized psychological trauma treatment.

The 34 participating children received a multicomponent phase-based therapy (Courtois & Ford, 2009), for the treatment of complex traumatic stress. During the first phase of treatment, the children learned emotion focused, emotion regulation strategies and mindfulness.

For the second phase, children participated in the EMDR Integrative Group Treatment Protocol (EMDR-IGTP), which consisted in two group sessions for the reprocessing of traumatic memories. Those children who did not achieve a score of zero in the Subjective Units of Disturbance (SUD), only needed one or two sessions of Individual EMDR Therapy to reach this score.

The results of this study showed a significant improvement in the Child's Reaction to Traumatic Events Scale (CRTES) and in the Short PTSD Rating Interview (SPRINT) for all the participants. These results were maintained in the follow up and demonstrated the effectiveness of combining the EMDR Integrative Group Treatment Protocol and Individual EMDR Therapy in resolving PTSD symptoms in children who have experienced severe interpersonal trauma.

Second Research Study

The Second Research Study (Jarero, Roque-López, Gómez, & Givaudán, 2014), was carried out in a farm 18 Km from the city of Cali, in the Cali-Buenaventura road (on the Pacific Port), from Thursday Morning, November 29 to Thursday Afternoon, December 6 in 2012 (8 full days and 7 nights).

Twenty-five children (10 boys and 15 girls), aged between 9 to 14 years attended the trauma recovery camp. All had been victims of severe interpersonal violence (e.g., rape, sexual abuse, physical and emotional abuse, neglect, abandonment).

Fourteen of them (n = 14) were victims of repeated rape or sexual abuse. The first group (*n* = 11, 7 boys and 4 girls), came from an Institution accredited by the Colombian Institute of Family Well-being. The second group (*n* = 14, 3 boys and 11 girls) lived with their families.

The application of Group and Individual EMDR Therapy was carried out within the context of a multicomponent phase–based trauma treatment approach. During the first phase of treatment, the children learned emotion focused, emotion regulation strategies and mindfulness.

During the second phase of treatment, children participated in the EMDR Integrative Group Treatment Protocol (EMDR-IGTP), which consisted in three group sessions for the traumatic memories reprocessing. Those children who did not achieve a score of zero in the Subjective Units of Disturbance (SUD), received one or two sessions of Individual EMDR Therapy to reach this score.

The results obtained in SPRINT Scale showed a statistically significant improvement for all the participants after treatment with EMDR Therapy; with treatment results continuing to improve at follow-up, measured two months after the therapy. The results also showed a global subjective improvement in the participants.

Pilot Study with Adolescents

A pilot study with adolescents was conducted in Yumbo, a municipality near the North of the city of Cali, Colombia.

The trauma recovery work was carried out in Gaia School facilities, located in the rural area of Yumbo. It lasted five days, from Monday 15 to Friday 19 of July, 2013. Adolescents arrived to Gaia School at 6:30 am and returned to the Institution at 6:00 pm.

A total of fourteen adolescent (all male), aged between 14 and 18 years, participated in this trauma recovery program. All had been victims of interpersonal violence (e.g., sexual abuse, rape, mistreatment, prostitution, families' part of criminal organizations). All adolescents came from an Institution accredited by the Colombian Institute of Family Well-being.

The application of Group and Individual EMDR therapy was carried out within the context of a multicomponent phase–based trauma treatment approach. During the first phase of treatment, the adolescents learned strategies focused on the development and installation of internal resources to cope with fear and emotion regulation. Additionally, they participated in artistic activities like acting, singing and painting, they were trained in mindfulness and practiced yoga.

During the second phase of treatment, adolescents participated in The EMDR Integrative Group Treatment Protocol (EMDR-IGTP), which consisted in three group sessions for the traumatic memories reprocessing: The first reprocessing was conducted on Thursday Afternoon of July18; the second reprocessing took place on Friday Morning of July 19: and the same day in the afternoon the third reprocessing was carried out.

On Friday 19, after the third reprocessing session, the four adolescents who did not achieve a score of zero in the SUD, received one (3 adolescents) or two (1 adolescent) sessions of individual EMDR Therapy to reach this score.

The post-treatment measures were obtained in Gaia School on Friday 26 of July, seven days after the treatment. And the follow-up measures were collected seven months later, during the last week of February, 2014.

The results of the SPRINT scale showed: a) there was not a statistically significant improvement between the baseline and the pre-treatment measures ($t(13)=0.7598$, $p=0.4609$); b) there was a significant improvement between pre and post-treatment measures with the EMDR-IGTP and the standard protocol of EMDR Therapy ($t(13) = 7.885$, $p < .0001$); c) there was not a significant improvement between post-treatment and follow-up measures ($t(13) = 0.6114$, $p = 0.5515$); d) there was a statistically significant improvement between pre-treatment and follow-up measures ($t(13) = 8.659$, $p < .0001$); e) there was a statistically significant improvement in the symptoms of the participants between the baseline and the follow up measures ($t(13) = 8.2923$, $p < 0.0001$).

From the statistical data obtained, we conclude that pre-treatment activities had no significant influence on PTSD symptoms, being the EMDR Therapy the cause of improvement of the PTSD symptoms of the participants; which was maintained during the seven months of follow-up. See Figure 4.

Current Research Study

Method

The Council of Ethics of the Latin American and Caribbean Foundation for Psychological Trauma Research approved the research protocol. The informed consent of parents and legal guardians of minors was obtained.

Participants

A total of 16 children (2 boys and 14 girls), aged between 9 to 13 years, attended the trauma recovery camp. All had been victims of severe interpersonal violence.

The 14 girls had been victims of physical violence and rape. Some, for long periods of time, even years; by family members (brother, uncle, stepfather, grandfather) or acquaintances (son of the woman who take care of her while their parents went at work, family friend).

One of the girls, as young as 11 years old, contracted a sexually transmitted disease as a result of the rape; and other girl, besides of being repeatedly raped by her political grandfather, she was blamed by him, for the rape he perpetrated on the younger sister; arguing she was responsible for looking after her.

Regarding the two boys, in addition of being victims of physical and emotional violence, one of them witnessed how his father and cousin raped a female cousin; and the other one witnessed the attempted suicide of his father.

All children were living with their families, characterized by being dysfunctional (e.g., knife fights between parents). In contrast with the two previous studies, this study included only children living with their family and not from an Institution accredited by the Colombian Institute of Family Well-being.

Procedure

The camp was conducted from Saturday Morning November 30 to Saturday Afternoon December 7, 2013 (8 full days and 7 nights). The camp took place on a farm 18 km from the city of Cali, in Cali -Buenaventura road (port on the Pacific). The therapeutic work and research followed the same eight stages of the two previous trauma recovery camps (Jarero, Roque Lopez, & Gomez, 2013; Jarero, Roque López, Gómez, & Givaudan, 2014).

The chronology of this camp was the following:

a) On Sunday Morning December 1, 2013, prior to any activity, the SPRINT Scale (Connor & Davidson, 2001; Vaishnavi et al, 2006) was administered to all children, in order to obtain a baseline measure (pre-camp activities). As well as, to observe the effect on the severity of Posttraumatic Stress Disorder symptoms, of the activities previous to reprocessing with individual and group EMDR Therapy.

b) From Sunday 1 to Wednesday 4 of December 2013, activities of the first phase of complex traumatic stress treatment were provided (Courtois & Ford, 2009). The children learned emotion focused, emotion regulation strategies and mindfulness. Also they became familiar with the EMDR Therapy procedure.

c) On Thursday Morning December 5, 2013, the pre-treatment assessment was conducted with the SPRINT Scale (Connor & Davidson, 2001; Vaishnavi et al, 2006). The objective was to make comparisons with the baseline, the post-treatment and the follow-up measures.

   Afterwards, the EMDR-IGTP was provided to the children. It consisted in three group sessions for traumatic memories reprocessing. The first session was on Thursday Morning, December 5; the second session was the same day in the afternoon, and the third session on Friday Morning, December 6.

d) On Friday 6 and Saturday 7 of December 2013, individual therapy with standard EMDR protocol was provided to one boy and six girls who did not achieve a score of zero on the Subjective Units of Disturbance (SUD) during the EMDR-IGTP. To achieve this score there was necessary to provide one single session of EMDR Therapy for the boy and 4 girls and two sessions for the other 2 girls.

e) On Friday December 13, 2013, the SPRINT scale was administered at the offices of CAIVAS-SILOE (by its acronym in Spanish, Children Victims of Sexual Abuse Care Center, Siloam Zone in Cali) to all participants, in order to obtain the post-treatment measures.

f) Finally, on Saturday 8 of February, 2014, during the "Journeys of Art and Internal Peace" in the city of Cali, the follow-up assessment was administered.

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: 0 (not at all), 1 (a little bit), 2 (moderately), 3 (quite a lot), and 4 (very much). Scores between 18 and 32 correspond to marked or severe PTSD symptoms, 11 and 17 to moderate symptoms, 7 and 10 to mild symptoms, and scores of 6 or less indicated either no or minimal symptoms.

The SPRINT also contains two additional items to measure global improvement according to percentage of change and severity rating. This questionnaire was translated from English to Spanish and from Spanish to English, reviewed, authorized by one of its authors, and adapted for children language.

SPRINT performs similarly to the Clinician-Administered PTSD Scale (CAPS) in the assessment of PTSD symptoms clusters and total scores and can be used as a diagnostic instrument (Vaishnavi et al, 2006). In the SPRINT, a cutoff score of 14 or more was found to carry 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).

Subjective Units of Disturbance Scale

SUD scores are an integral part of EMDR treatment (Shapiro, 2001). SUD Scale has shown to have a good concordance with pre-post physiological autonomic measures of anxiety (e.g., Wilson, Silver, Covi, & Foster, 1996).

Physiological dearousal and relaxation were related to a decrease in the SUD score at the end of a session (Sack, Lempa, Steinmetz, Lamprecht, & Hofmann, 2008). The SUD scores were significantly correlated with post-treatment therapist-rated improvement (Kim, Bae, & Park, 2008).

A modification of SUD adapted to children (Shapiro, 2001; Wolpe, 1958) was used. Instead of asking the children to simply rate the level of their disturbance, they were shown a diagram that depicts faces representing different levels of negative emotion (from 0 to 10, where 0 shows no disturbance and 10 shows severe disturbance) and asked to select the face that best represented their emotion and to write the corresponding number in their picture. Children were assisted in this process by members of the psychological recovery camp team, who were called "Emotional Protection Team"

Treatment

First Phase of Trauma Treatment

As in the two previous studies (Jarero, Roque Lopez, & Gomez, 2013; Jarero, Roque López, Gómez, & Givaudan, 2014), the first phase of trauma treatment, was carried out within the context of a psychological recovery camp; and consisted of a range of different activities, designed to develop emotional stability and life skills.

It is important to note that the first phase of trauma treatment therapy corresponds to Phases 1 and 2 of the standard EMDR Therapy.

Certain activities were modified in contrast with the two previous studies, in order to suit the circumstances and the type of population (children living with their dysfunctional families). The modifications made were the following:

Every day the children were involved in various activities and workshops. In addition to the practices of mindfulness, emotional self-regulation, artistic and recreational activities; several walks were conducted in the neighborhood of the farm: one at 5:00 o'clock in the morning to watch the sunrise, two more at mid-morning to practice mindfulness walking and awakening of the senses, and the last one at night to arouse curiosity observing the luminous insects amid the haze. Every night before going to sleep, the children gathered to relax with music and children's stories.

Given that in this camp children from dysfunctional families were treated, the artistic activities were used to work the sense of commitment, responsibility and coexistence: The artists proposed two songs of the Colombian Pacific Coast Folklore and guided the children in the creation of their own choreography and costume construction with paper.

In visual arts activities, the topic of observe and differentiate between different emotions and body sensations, was worked as a specific activity that allows the children to safely contact with their body and emotions. For this purpose, the children built masks of their own faces and decorated them reflecting an emotion chosen: shame, remorse, guilt, humiliation, contempt, disgust, anxiety, fear, horror, discomfort, frustration, anger, hate, disappointment, sadness, grief, despair, gratitude, appreciation, curiosity, interest, passion, happiness, pleasure, joy and love.

The theater performers told oral tradition tales with positive messages and lessons about the social harmony (Gonzales, personal communication, July 2013).

On the closing day, the children performed a "musical choreography". They made a "catwalk" or parade showing off their customs and masks. They also sang the song learned during the camp. It should be noted that the audience of the closing day show were all the recovery camp team members.

Special emphasis was placed on the development and affirmation of identity through Colombian traditional games; children proposed different games (tag, hide and seek, etc.) used in their neighborhoods and streets and set their own rules.

The children practiced mindfulness, by learning and practicing the song "*When I inhale, When I exhale"* (Nhat-Hanh, 2009), they also learned how to contact their "inner child" and comfort, love and care him or her (Nhat-Hanh, 2010). They as well learned and practiced daily exercises of anchoring in the present, specially designed for kids (Snel, 2013), and yoga postures for children as a practice of body-centered mindfulness (Cohen, 2013).

In this camp an experiential workshop about the love of nature as a source of virtues was performed.

The children were accompanied to recall memories of experiences of happiness they had (being loved, doing something for someone else, etc.), with the objective of strengthen their internal resources, which is an important aspect for the trauma treatment in the therapeutic process with EMDR Therapy.

It is important to emphasize there were children who obtained low scores in the SPRINT in baseline (e.g., 4, 7, 12, 14), but in pre-treatment, these same children reported higher scores (e.g., 25, 27, 17, 23). The EMDR therapists who treated the children, attribute this phenomenon to the activities of the first phase of treatment, in which children learned to safely contact with their body and emotions.

Second Phase of Trauma Treatment

Within the context of the individual EMDR Therapy, when speaking about Clusters, Dr. Shapiro (2001) posits that during the history-taking sessions, EMDR clinician must develop a series of clusters, by appropriately grouping *similar incidents*. And subsequently, the EMDR therapist must ask the patient to choose for reprocessing one incident that represents a particular cluster.

She also mentions that the EMDR clinicians must verify that the reprocessing generalization effect occurred throughout the entire cluster of incidents. This requires asking the patient to scan through the incidents in each separate cluster to identify any other memories that have not been reprocessed. This procedure is carried out along individual therapy sessions.

The EMDR Integrative Group Protocol (EMDR-IGTP) for early intervention was designed to address one critical incident experienced by many people (e.g., earthquake, flood, ongoing war trauma, geopolitical crisis). For all our research studies with child victims of severe interpersonal violence, the protocol had to be adapted to treat effectively and in a short period of time, a population of children and adolescents, who instead of have lived a single type of adverse experience, for example, physical violence; have lived events characterized by being: a) interpersonal; b) severe; c) multiple (different types of victimization) such as: rape, plus emotional abuse, plus physical violence, plus neglect, plus abandonment by one or both parents; d) prolonged, with two variables: frequency and chronicity.

Based on field reports of the two co-authors (SRL and JG) and following Dr. Shapiro's guidelines, the EMDR-IGTP authors conceptualization, to address in a group modality this population with different types of severe and prolonged victimization; *was considering similar incidents of each type of victimization within their specific cluster*; and be mindful that patients may have not just one, but four or more different types of victimization (Finkelhor, Ormrod, & Turner , 2007) that must be reprocessed .

In Spanish, the word cluster means "bunch" (racimo) which is specially used to refer a bunch of fruits, like grapes. So, metaphorically, each type of victimization could be seen as a specific grapes cluster, and each grape in that particular cluster would represent an incident related only to that topic. For example, rape would be a grape cluster, and each time the person was raped, would be a grape in that cluster or bunch.

Another specific grape cluster could be physical violence, and every time the person suffered physical violence would represent a grape in that particular cluster or bunch. And so on, with all types of victimization suffered by each patient.

The adaptations to the EMDR-IGTP for early intervention, included the following: at the beginning of Phase 3 of the group protocol first application, the participants were asked to choose the memory that best represents all the difficult experiences they had lived. An alternative way to do this is asking them to run a mental movie of all those experiences and choose for reprocessing the memory that best represent them.

For the next group or individual reprocessing sessions, the participants are asked to run a mental movie of all the difficult experiences they have lived and to choose for reprocessing any disturbing memory present at that moment.

The aim of these adaptations for the EMDR-IGTP for early intervention, is to verify that the reprocessing generalization effect occurred along of each cluster and identify any memory that has not been reprocessed, so it can be reprocessed; either in a group or an individual format.

Generalization is understood as if a patient chose to reprocess an incident that represents a particular cluster (e.g., rape), the reprocessing generalization effect will extend to all the times she was raped. It cannot be expected that the reprocessing of a specific cluster (rape), be generalized to a different cluster (e.g., being beaten by the father, or being humiliated by the mother).

To illustrate the reprocessing generalization effect of a particular cluster with the adaptations made to the EMDR-IGTP for early intervention, we will take as an example the case of a girl of 11 years old who attended to this trauma recovery camp because she suffered repeated rapes. Her SPRINT scores at pre-treatment assessment, was 25, indicating severe symptoms of PTSD.

In the first group reprocessing session, after the instruction *"choose the memory that best represents all the difficult experiences you have lived"*, she chose an incident representing the cluster of rapes.

In that first reprocessing session, she made drawings of the rapes she suffered in her home by the son of the caretaker, whom she called, "brother", as well as drawings in which her biological brother was filming the rape while laughing.

In the second group reprocessing session, carried out the same day in the afternoon, she made drawings in which she was raped by an uncle in his grandmother's house. The next day, at the third reprocessing session, the girl drew more experiences of rape at her home perpetrated by "her brother", as well as of the complaint before the authorities her mother made against the rapist.

Her SPRINT score at post-treatment (a week later) was 3, and for the follow-up assessment (two months later), was 1 (no PTSD symptoms). Regarding to the global subjective improvement measured by the SPRINT; for the question "How much better do you feel since beginning treatment? Which has a response between 0 to 100 %, the girl answered 100 %. Finally when she was asked: "How much has the above symptoms improved since starting treatment? Her response was 5 (Very much), which is the highest.

However, it has been observed there are incidents with additional factors or significant variations, in which the reprocessing generalization effect within the cluster does not happen, so they should be treated as specific targets.

About this, Dr. Shapiro (2001) mentions: *"...incidents that contain additional factors (or significant variants) may require individual targeting for complete resolution"* (p. 207).

This was the case of a girl who was raped and acquired a sexually transmitted disease (STD). During the EMDR group sessions, she reprocessed all incidents related to rapes; however, her SUD scores did not reach zero, because the incident of had contracted an STD (significant variant), was not reprocessed in the cluster. It had to be treated as a specific target in individual EMDR therapy.

Chronology of the Second Phase of Treatment.

The second phase of trauma treatment corresponds to Phases 3-7 of EMDR Therapy (Shapiro, 2001). During this phase of treatment, group and individual EMDR intensive Therapy was provided.

There is research suggesting that the application of EMDR therapy in a more intensive or concentrated format can be very effective in reducing symptoms of trauma (Abel, 2011; Grey, 2011; Wesson & Gould, 2009). For example, EMDR Intensive Therapy can be administered in several subsequent days, or twice a day (once in the morning and in the afternoon).

The 16 participants received three group sessions for traumatic memories reprocessing. The first session was on Thursday Morning of December 5, 2013; the second session was the same day in the afternoon; and the third session was on Friday Morning of December 6. The same procedures of the two previous camps were followed (Jarero, Roque-Lopez, & Gomez, 2013; Jarero, Roque-López, Gómez, & Givaudan, 2013).

On Friday 6 and Saturday 7, December 2013, individual therapy with the standard EMDR protocol was provided to one boy and 6 girls who did not achieve a SUD score of zero during the three reprocessing sessions with the EMDR-IGTP. The number of sessions needed to reach a SUD score of zero were: one (5 boys/girls) and two (two girls).

The group and individual therapies were administered by four expert and certified EMDR Therapists, with extensive experience working with children and vulnerable groups.

Results

Treatment effects were measured by the data obtained in SUD scores and the application of the SPRINT on 4 occasions: baseline at the beginning of the camp; pre-treatment before starting the first group therapy session; post-treatment after group and individual treatment; and follow-up.

Tables 1 and 2 show the means and standard deviations for each of the measures (SUD and SPRINT), in the four different times.

Time	Mean	N	SD.
Pre-reprocessing.	6.4375	16	2.731
First-reprocessing.	7.9375	16	2.174
Second-reprocessing.	7.3750	16	2.187
Third-reprocessing.	2.3125	16	3.239

Table 1. SUD scores Means and Standard Deviations.

Time	Mean	N	SD
Baseline	20.500	16	8.671
Pre-treatment	25.062	16	3.889
Post-treatment	4.437	16	4.065
Follow-up	3.200	16	2.704

Table 2. SPRINT scores Means and Standard Deviations.

Effect of treatment through analysis of comparisons between different measures.

In order to analyze SUD scores, test for comparisons of means were conducted to determine if there were significant differences. When comparing the means of SUD scores obtained in the pre-reprocessing and the first reprocessing session, significant differences ($t(15) = -3.354$, $p < .005$) were found. These results indicate that SUD sores increased significantly between the pre-reprocessing and the first reprocessing session. See Table 1 and Figure 1.

The comparison of means obtained in SUD scores between the first and second reprocessing did not show statistically significant differences ($t(15) = 1.209$, $p = .24$). Nevertheless, the comparison between the second and the third reprocessing session brought as a result a statistically significant decrease in SUD scores ($t(15) = 6.034$, $p < .0001$). See Table 1 and Figure 1.

For the SPRINT scores, statistically significant differences were observed when comparing the baseline and the pre-treatment measures (t (15) = -2.211, $p < .05$). These results can be seen in Figure 2, where a significant increase in SPRINT scores is showed during the time elapsed between the joining to the camp and the pre-treatment with the EMDR-IGTP.

Also, significant differences between pre-treatment and post-treatment measures (t (15) = 19.454, $p < .0001$) are observed, whereas no significant differences are showed when comparing the post-treatment and follow-up measures (t (14) = 1.327, $p < .206$).

In order to evaluate the effects of treatment a General Linear Model was applied. Three measures obtained in SUD and SPRINT scores were analyzed (pre-treatment, post-treatment and follow-up).

The results showed a statistically significant treatment effect for both SUD and SPRINT scores in the between-subjects test: (F [1.15] = 146.85, p < .000 and F [1,14] = 238.56, p < 0.000. In the case of SUD scores, the main effect occurred between the second and the third reprocessing sessions; and for SPRINT scores, it occurred between the pre-treatment and post-treatment measures (see Figures 1 and 2).

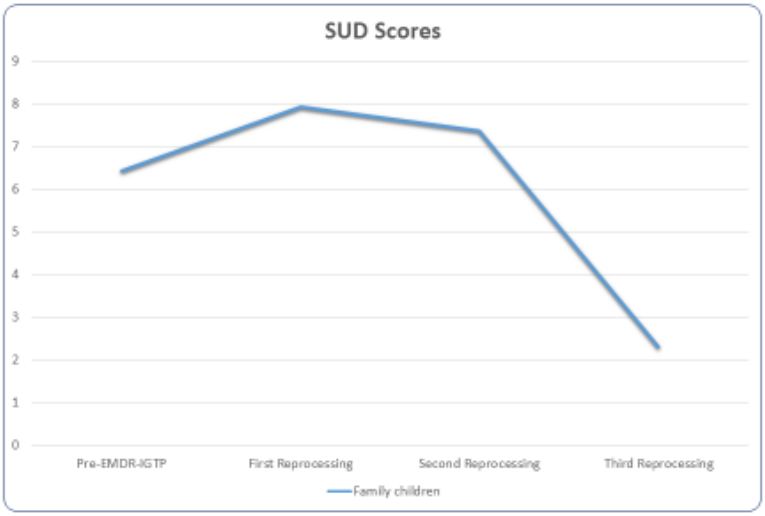

Figure 1. SUD scores during the three reprocessing sessions with the EMDR-IGTP.

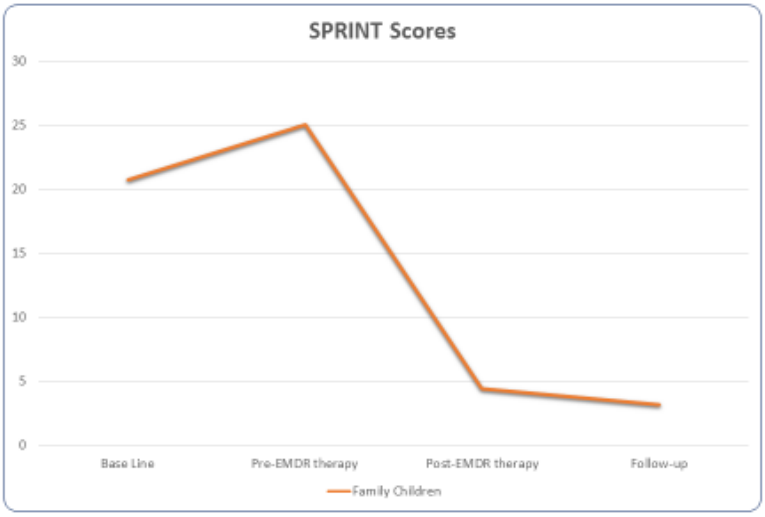

Figure 2. Mean SPRINT scores at Baseline, Pre-EMDR therapy, Post-EMDR-therapy and Follow-up.

Subjective Global Improvement

SPRINT scale evaluates the global improvement through the percentage of change. In this study, the mean response of the percentage of global improvement resulting from the follow-up measure by the participants was 94 %. As for the degree of improvement, measured on a scale of 1-5 (where 5 is very much), a mean response of 4.8 was obtained.

Discussion

This study presents the results of the application of EMDR Integrative Group Treatment Protocol and Individual EMDR Therapy Protocol to a total of 16 children (2 boys and 14 girls), aged between 9 to 13 years, who attended the trauma recovery camp. All had been victims of severe interpersonal violence. The 14 girls had been victims of physical violence and rape; some for long periods of time, even years; by family members or acquaintances.

Regarding the two boys, besides of being victims of physical and emotional violence; one of them witnessed how his father and his cousin raped a female cousin and the other boy witnessed the attempted suicide of his father. All children were living with their families, characterized by being dysfunctional (e.g., knife fights between parents).

The results of this research show the effectiveness of individual and group EMDR Therapy, to resolve Posttraumatic Stress Disorder (PTSD) symptoms in children victims of severe interpersonal violence. The decrease observed in the follow-up, confirms that the effects of the program not only were maintained over time, but continued to decline.

As in the second Research Study (Jarero, Roque López, Gómez, & Givaudan, 2014) and the Pilot Study with adolescents presented in this article, it was observed that activities previous to the reprocessing with EMDR Therapy had no statistically significant effect in reducing the severity of Posttraumatic Stress Disorder symptoms measured with the SPRINT.

In this study, a significant increase in SPRINT scores was observed between the beginning of the camp and the pre-treatment with the EMDR-IGTP. The study was not designed to examine the specific reasons for this increase. Further research is needed to find the factors that influenced in this results.

Statistical analysis of treatment effects in the six groups participating in the trauma recovery camps from 2011 to 2013

During 2011, 2012 and 2013, the EMDR Integrative Group Treatment Protocol (EMDR-IGTP) and the EMDR standard Individual Therapy Protocol was administered to six groups (n=89) of boys (n=44) and girls (n=45), aged between 9 and 17 years who were victims of severe interpersonal violence (e.g., rape, sexual abuse, physical and emotional violence, neglect, abandonment). The application of Group (3 sessions) and Individual EMDR therapy (1-2 sessions) for the resolution of traumatic memories was carried out within the context of a multicomponent phase–based trauma treatment approach during a week-long Trauma Recovery Camps in Colombia.

Figure 3 showed that all groups follow a similar pattern between the pre and post-treatment mean SPRINT Scores.

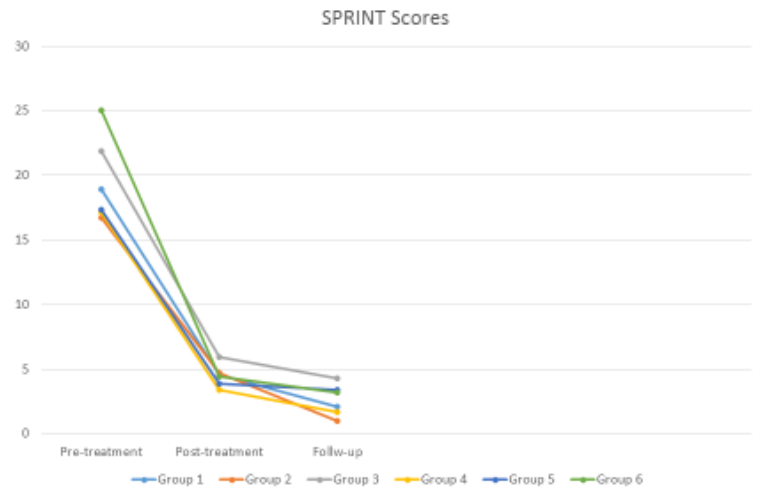

Figure 3. Six groups mean SPRINT scores at pre-treatment, post-treatment and follow-up

One-way Analysis of Variance (ANOVA).

For this paper we used a one-way analysis of variance (ANOVA) to test whether the SPRINT means differs among the six groups of participants at pre, post-treatment and follow-up.

The comparison of means obtained in the Pre-treatment with EMDR Therapy measure by the six groups showed a P = 0.0004, which indicates that the variation of the means between groups *is significantly higher* than the expected by chance.

The comparison of means obtained in the Post-treatment with EMDR Therapy measure by the six groups showed a P = 0.4427, which indicates that the variation of the means between groups *is not significantly higher* than the expected by chance.

The comparison of means obtained in the follow up by the six groups showed a P=0.0202, which indicates that the variation of the means between groups *is significantly* higher than the expected by chance.

These results indicate that prior to EMDR Therapy the participants had significant differences in their SPRINT scores.

Also indicates that after the EMDR Therapy, participants had no significant differences in their SPRINT scores; *this denotes that the EMDR therapy had similar beneficial effect for all participants.*

In the follow-up, significant differences were found, especially among "Institution children" (higher SPRINT scores) and "Family children" (lower scores SPRINT), as had already been noted in the second trauma recovery camp (Jarero, Roque Lopez-Gomez, & Givaudan, 2014). Further research is needed to find the factors that influenced this result.

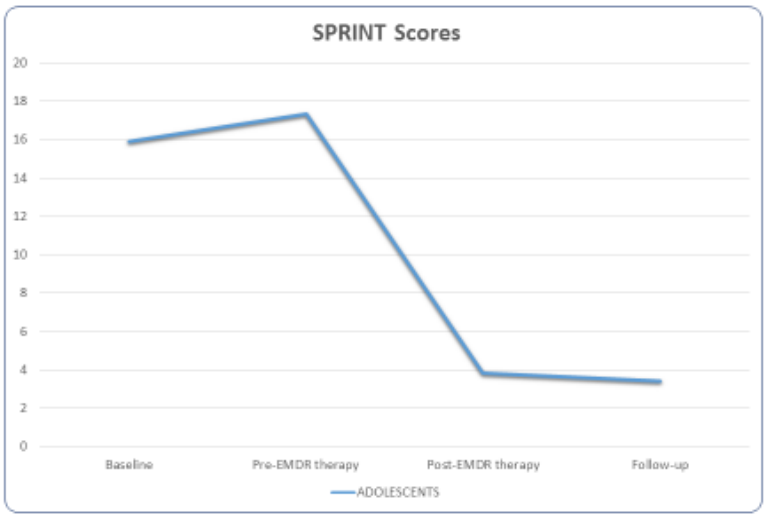

Figure 4. Mean SPRINT scores at pre-treatment, post-treatment and follow-up of the adolescent's pilot study mentioned in this paper

These are the first studies that have measured the effects of the combination of the EMDR-IGTP plus individual EMDR Therapy on an Intensive EMDR treatment modality within a multicomponent phase–based trauma treatment approach.

The results obtained with the SPRINT scale for all groups showed a significant statistical improvement in participants after treatment with treatment results continuing to improve at follow-up. The results also exhibit a global subjective improvement in the participants.

In all cases was observed that the group sessions had effects in reducing SUD scores, related to the traumatic memory; and in increasing the sense of mastery and confidence for dealing with the terrifying memories. Only one or two individual EMDR Therapy sessions were needed for the children who had lived different severe interpersonal trauma, to achieve a SUD score of zero.

It should be noticed that treatment effects were generalized to the entire network grouping similar incidents (e.g., rape, sexual abuse, physical and emotional abuse, neglect, abandonment). Shapiro (2001) mentions that when a patient chooses to reprocess an incident that represents a cluster of memories in particular *"clinical reports have verified that generalization will usually occurs, causing a reprocessing effect throughout the entire cluster of incidents"* (p. 207).

Recommendations

The Studies of the three trauma recovery camps and the pilot study with adolescents mentioned in this article, have laid the foundation and provided the information needed for the next step. This step is the validation before the global academic community and the recognition of Global Institutions, such as the World Health Organization, about the use of EMDR Therapy (in its group and individual modalities) for child victims of severe interpersonal violence; becoming this model a powerful psychotherapeutic alternative option to traditional approaches.

This will be achieved using randomized controlled trials (RCTs), carried out in trauma recovery camps or within the Institution where the children live. These studies should have a minimum of 40 participants (20 per group).

During the first phase of trauma therapy (corresponding to Phases 1 and 2 of the of EMDR Therapy protocol), previous to reprocessing, participants must learn and practice the Safe Place, the Pleasant Memory technique and Mindfulness, as emotion focused and emotion regulation strategies. Participants must keep practicing these techniques between EMDR-IGTP reprocessing sessions. During the second phase of trauma treatment (corresponding to Phases 3-7 of EMDR Therapy), participants must receive Intensive EMDR Therapy, with a minimum of four EMDR-IGTP reprocessing session on consecutive days, two per day (morning and afternoon). This treatment strategy will enable to treat a greater number of children and may provide greater benefits in terms of costs.

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