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Article in IAFOR Journal of Psychology & the Behavioral Sciences · July 2019

DOI: 10.19080/PBSIJ.2019.12.555842

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# A Field Study on the EMDR Integrative Group Treatment Protocol for Ongoing Traumatic Stress Provided to Adolescent Eritrean Refugees Living in Ethiopia



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**Submission:** July 08, 2019; **Published:** July 25, 2019

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## Abstract

The main objective of this study was to evaluate the effectiveness of the EMDR-integrative group treatment protocol for ongoing traumatic stress (EMDR-IGTP-OTS) in reducing posttraumatic stress disorder (PTSD), depression, and anxiety symptoms in adolescent refugees living inside the Shimelba refugee camp in Shiraro, Ethiopia. A secondary objective was to present one clinical case of a male Eritrean refugee adolescent with characteristics of selective mutism and with symptoms of PTSD, anxiety and depression. A total of 48 Eritrean refugee adolescents were treated simultaneously with intensive EMDR therapy using the EMDR-IGTP-OTS. Each of the treatment group participants received an average of five hours of treatment, provided during six group-treatment sessions, over two consecutive days in a setting inside the refugee camp. EMDR-IGTP-OTS treatment focused only on the distressing memories related to their life as refugees and did not address any other memories. No adverse effects were reported during treatment or at one-month post-treatment assessment.

The Hospital Anxiety and Depression Scale (HADS) and the Post-traumatic Stress Disorder Checklist for DSM-5 (PCL5) were used as pre and post-treatment assessments measuring each client's anxiety, depression, and PTSD symptoms, respectively. Statistical analysis showed a significant difference between pre-test ( $M=42.63$ ,  $SD=14.69$ ) and post-test ( $M=27.46$ ,  $SD=16.83$ );  $t(47) = 4.43$ ,  $p<0.0001$  in PTSD symptoms, depression symptoms pre-test ( $M=9.31$ ,  $SD=3.71$ ) and post-test ( $M=5.88$ ,  $SD=4.88$ );  $t(47) = 4.43$ ,  $p<0.0001$ , and in anxiety symptoms pre-test ( $M=10.65$ ,  $SD=4.03$ ) and post-test ( $M=6.73$ ,  $SD=4.89$ );  $t(47) = 3.99$ ,  $p<0.001$ . The study results show that the EMDR-IGTP-OTS could be an important component of a multidisciplinary approach to reducing or eliminating PTSD, depression and anxiety symptoms in adolescent refugees living in refugee camps.

**Keywords:** EMDR; EMDR-IGTP-OTS; Evidence-Based Practice; Refugee; Mental Health; Group Therapy; Trauma Exposure; Adolescent; Selective Mutism.

## Introduction

Persecution, lack of safety, threats, conflict and war are daily fears in the life of a refugee, forcing them to flee their home to find safety often in a nearby country. The need to provide mental health services for such a traumatized group of people is imperative. The administrative and clinical logistics can prove to be challenging. Refugees often live in isolated parts of the country; far away from the closest city. Access to enter refugee camps is often an arduous and sometimes an impossible process for those outside access to the United Nations and other large governmental agencies. It is unclear what the most effective treatment modality is for the refugee population.

Various research articles indicate a high percentage of refugee's experience PTSD symptoms, but very few actually receive treatment [1,2]. The mental health consequences of these experiences, such as persecution and war, combined with the daily stressors of living in a refugee camp with continued family separation, displacement and challenging conditions, have not yet been thoroughly researched [3].

## Eritrean Refugee Context

A refugee is defined by the United Nations High Commissioner for Refugees (UNHCR), as someone who, because

of a well-founded fear of persecution due to race, religion, nationality, membership of a particular social group or political opinion, are outside of their countries of nationality and are unable or unwilling to return due to lack of safety and protection from their country of origin [4]. Those who meet this definition may be granted access to remain in a refugee camp and apply for resettlement in another country, rather than return to their country of origin. The UNHCR claim there are 24.5 million refugees worldwide [5]. Only about 100,000 refugees are resettled each year in a third country, such as the United States, Canada, Sweden or other western countries. This means that the great majority remain idling in refugee camps, needing help while waiting for relief and a new life. Some refugees attempt to flee in an effort to reach other accommodations, which is a dangerous and risky process. The Eritrean refugee situation is a devastating story involving decades of heart-wrenching torture, imprisonment, and oppression. Eritrea has been under President Isaias Afewerki's dictatorial rule for over 26 years. It has no legislature, no independent civil society organizations or media outlets, and no independent judiciary [6].

Ethiopia is host to the second largest refugee population in Africa, sheltering 905,831 registered refugees and asylum seekers as of 31 August 2018. Of this population 57.1% are children with distinct protection needs. The protracted Eritrean refugee operation was censused as 173,879 at the end of 2018. Children comprise around 40% of the total Eritrean refugee population present in the camps and receiving protection and assistance through UNHCR's Shire operation in the Tigray region of Ethiopia. Different from other operations globally, unaccompanied and separated children (UASC) comprise close to 30% of all children in the Tigray region camps. There were over 4,700 UASC present at the end of April 2018. Family separation and the loose informal social support system due to protracted stay in the camps accentuates the long-term psychosocial distress among the UASC in the refugee camps [7].

### EMDR Therapy

Eye movement desensitization and reprocessing (EMDR) is an evidence-based, psychological treatment that was initially developed to treat PTSD [8]. It requires a client to recall a traumatic memory while simultaneously engaging in bilateral stimulation, whether it be by horizontal eye movements or tapping. EMDR has been found efficacious in treating chronic posttraumatic stress disorder [9-11]. Consequently, EMDR therapy is recommended as a treatment of choice for children, adolescents and adults by the World Health Organization treatment guidelines for PTSD [12]. EMDR is an effective, psychological intervention for treating post-traumatic stress disorder (PTSD) [10] in both adults and children [11,12]. EMDR therapy is founded on the understanding of the Adaptive Information Processing (AIP) model which posits that memory networks are the foundation of pathology and overall health and wellness [8]. The AIP model explains that psychopathology is primarily caused by memories

of traumatic or distressing life experiences which has been inadequately processed and maladaptively stored in a "state-specific form, meaning that the information acquired at the time of the event –images, sounds, affect, physical sensations- is stored in the same form in which it was initially experienced. These memories are stored by association and form memory networks that link present experiences to past experiences and can be triggered by current internal and external stimuli, contributing to present dysfunction [13]. Several case reports have appeared to describe the successful use of EMDR with refugees from Guatemala, Bosnia, Iraq and Croatia. These case studies report a decrease in depression, nightmares, distressing memories, social phobias, anxiety and other PTSD symptoms after two to twelve EMDR sessions [14-18]. Frequent positive results of these cases included improving sleep, stable mood, regular employment, and actively helping other refugees in their community. Many refugee mental health centers are increasing their usage of EMDR with refugee clients [19-21].

### EMDR Integrative Group Treatment Protocol for Ongoing Traumatic Stress (EMDR-IGTP-OTS)

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) to deal with the extensive need for mental health services after Hurricane Pauline ravaged the coasts of the states of Oaxaca and Guerrero in the year 1997 [22]. The protocol combines the eight EMDR treatment phases with a group therapy model, an art therapy format and uses the Butterfly Hug (BH) as a form of a self-administered bilateral stimulation [23]. Jarero et al. [24] (adapted the EMDR-IGTP to treat older children, adolescents and adults living with ongoing traumatic stress with no post-trauma safety period for memory consolidation (like the refugees) and developed the EMDR-IGTP Adapted for Ongoing Traumatic Stress (EMDR-IGTP-OTS) [24,25]. This protocol incorporates many advantages that are suitable for refugee populations. The protocol allows for the identification, targeting, and processing of the continuum of multiple traumatic experiences faced by refugee populations who are experiencing ongoing traumatic stress. Individual EMDR treatment can be provided in a group setting to small and large groups of refugees in an intensive treatment modality so that patients can receive efficient and effective treatment. All treatment and memory exposure take place in the affect- regulating presence of the therapists. As cross-cultural treatment with cultural sensitivity, EMDR-IGTP-OTS reduces cultural resistance to treatment, even to members of reticent cultures, because it is minimally intrusive, and does not require creating a narrative of the traumatic experience, verbal or written disclosure of details, the prolonged reliving of traumatic experience, or homework [26]. The disturbing memory is not visualized mentally as in the standard EMDR protocol, but instead is represented concretely in the participant's drawings or symbols. Relying on drawings

or symbols presents a special advantage to provide culturally sensitive and effective treatment for patients who struggle to connect to their cognitive states or feel guilty or ashamed; they may be more comfortable expressing their emotional distress through drawing. Also, drawings are used for effective reprocessing with patients with lower levels of literacy, such as the participants in this study [27]. The protocol has been found effective with clients from non-Western cultural backgrounds [26,28-30].

### Art Therapy

Art therapy is described as the therapeutic use of art making by people who experience trauma or challenges in living. Through creating art and reflecting on the art processes, people can increase awareness of self and others. One can learn to cope with symptoms, stress and traumatic experiences; enhance cognitive abilities; and enjoy the life-affirming pleasures of making art [31]. Art therapy is commonly described as an interdisciplinary field in the use of art as therapy, psychology, human development within the art, anthropology and neuroscience [32]. We see within the art therapy field a hybrid of both science and creativity as it can help to transform the hidden, nonverbal, somatic experience into a more fully articulated, felt experience through the creation of art. Learning to read visual images is essential in understanding how people processing through the trauma and form a new narrative. Visual Thinking Strategies (VTS) which describes how people develop visual competencies and the process by which they are applied to make meaning from imagery [33]. VTS is a developmental theory that explains how people construct meaning given different levels of experience with imagery. The inquiry and exploration of art therapists combine critical thinking skills (including observing, hypothesizing, evidence-seeking, questioning, and refining) with unique art psycho-therapeutic skills to make meaning from art.

Some themes that can surface include: (a) formal art elements (e.g. color, value, texture, shape), (b) spatial relationships (e.g. between parts of the image, the gestalt and discrete parts, the participant and the image), (c) meaning (e.g. labeling, in future images) (d) development of characters. The patterns and themes that play out within this case study develop a clear picture of dissociative parts that are present within the client's art process [34]. Within his art we will see a shift in states from disorganized patterns to a cohesive whole image in the final stages.

### Objectives

The main objective of this study was to evaluate the effectiveness of the EMDR-IGTP-OTS in reducing posttraumatic stress disorder (PTSD), depression, and anxiety symptoms in adolescents' refugees living inside the Shimelba refugee camp in Shiraro, Ethiopia. A secondary objective was to present one clinical case of an adolescent male Eritrean refugee with characteristics of selective mutism and also symptoms of PTSD, anxiety and depression, explaining the traumatic memory reprocessing for ongoing traumatic stress from an art therapy

perspective. Allowing the series of drawings to show how new information is accessed, reprocessed and associations are rapidly brought into conscious awareness.

### Method

#### Study Design

To measure PTSD, anxiety and depression symptom score changes before and after the provision of the EMDR-IGTP-OTS, this field study used a pre-treatment, post-treatment measurement design. Art therapy was used to explain the clinical case traumatic memory reprocessing experience. The research project at the Shimelba Refugee Camp was reviewed and approved by the IHS-Ethiopia Shire Area Management Group to ensure that the research study was ethically and culturally appropriate for the population.

#### Participants

This study was conducted in 2018 in the Shimelba refugee camp in the state of Shiraro in Ethiopia. Sixty potential participants were recruited. Of those, twelve of the participants did not want to participate in the study. A total of 48 adolescent Eritrean refugees participated in the research project explanation, attended the intake interview, and fulfilled the inclusion criteria. Inclusion criteria included: (a) being under the age of 18 years old, (b) being a refugee living in the Shimelba refugee camp, (c) voluntarily participating in the study, (d) not receiving drug therapy for posttraumatic stress disorder symptoms, and (e) not receiving specialized trauma therapy.

Exclusion criteria included: (a) ongoing self-harm/suicidal or homicidal ideation, (b) diagnosis of schizophrenia, psychotic or bipolar disorder, (c) diagnosis of dissociative disorder, (d) organic mental disorder, (e) current, active chemical dependency problem, (f) significant cognitive impairment (e.g., severe intellectual disability, dementia), and (g) presence of uncontrolled symptoms due to medical illness.

A total of 48 adolescents (28 males and 20 females) met the inclusion criteria. Participants ranged in age from 12 to 17 years old ( $M = 14.7$  years). Grade level of education among participants ranged from 0 to 10th grade ( $M=5.6$ ). Time as a refugee in months ranged from 3 - 192 months ( $M= 45.8$ , median=24). Participants were from two ethnic groups, Tigrinya ( $n=25$ ) and Kunama ( $n=23$ ). Within the 48 participants, there were members of 5 different religions, Catholic ( $n=19$ ), Muslim ( $n=4$ ), Orthodox ( $n=20$ ), Protestant ( $n=3$ ), and Tohado ( $n=2$ ). Participation was voluntary with the participant's and legal guardian's verbal consent and with the participant's and their social worker's written consent.

#### Instruments

We used the Posttraumatic Stress Disorder Checklist for DSM-5 (PCL-5) provided directly by the National Center for PTSD (NCPTSD) and adapted, with the NCPTSD approval for the past week, instead of the past month symptoms to research with a

high mobility population [35,36]. The instrument was translated from English to Tigrinya. It contains 20 items, including three new PTSD symptoms (compared with the PTSD Checklist for DSM-IV) [37]: blame, negative emotions, and reckless or self-destructive behavior. Respondents indicate how much they have been bothered by each PTSD symptom over the past week (rather than the past month), using a 5-point scale ranging from 0 = not at all, 1 = a little bit, 2 = moderately, 3 = quite a bit, and 4 = extremely. A total-symptom score of zero to 80 can be obtained by summing the items. The sum of the scores yields continuous measure of PTSD symptoms severity for symptom clusters and the whole disorder Psychometrics for the PCL-5, validated against the Clinician-Administered PTSD Scale-5 (CAPS-5) diagnosis, suggest that a score of 31-33 is optimal to determining a probable PTSD diagnosis, and a score of 33 is recommended for use at pre-set [36,38].

The PCL-5 is intended for a variety of clinical and research assessment tasks, including quantifying PTSD symptom severity, measuring the underlying construct of PTSD, establishing a provisional PTSD diagnosis, and estimating the presumed prevalence of PTSD. It is important to mention that at the first assessment time, before answering the PCL-5, all participants were asked to focus specifically on the worst refugee-related event that currently bothered them the most; then at each subsequent assessment time, they were asked to focus on the same event.

The Hospital Anxiety and Depression Scale (HADS) has been extensively used to evaluate these psychiatric comorbidities in various clinical settings at all levels of healthcare services and with general populations [39,40]. The instrument was translated from English to Tigrinya. It is a 14 item self-report scale to measure the anxiety (7 items) and depression (7 items) of patients with both somatic and mental problems using a 4-point Likert scale ranging from 0 to 3. The response descriptors of all items are Yes, definitely (score 3); Yes, sometimes (score 2); No, not much (score 1); No, not at all (score 0). A higher score represents higher levels of anxiety and depression: a domain score of 11 or greater indicates anxiety or depression; 8-10 indicates borderline case; 7 or lower indicates no signs of anxiety or depression.

### Procedure

To be culturally sensitive, all interviews and protocol administration were conducted in the refugee's language (Tigrinya). To decrease any possible prejudice against the treatment or the perceived need of treatment because they are "insane," research assistants provided psychoeducation about trauma and answered participant's questions related to trauma, PTSD, anxiety, depression and EMDR therapy. Treatment group participants completed the instruments on an individual basis in the different measurement moments. During Time 1, mental health professionals conducted the intake interview, collected clinical histories, and signed informed consent forms from the

participants and their social worker (with verbal consent from the participant's legal guardians). Application of instrument groups was done after this procedure by research assistants who were not blind to the study, but blind to the treatment allocation. During Time 2 (post-treatment assessment 30 days after treatment) assessment was conducted for all participants by research assistants blind to treatment allocation.

All data was collected, stored, and handled in full compliance with the Guidelines for Good Clinical Practice of the European Medicines Agency (version 1 December 2016) and the Helsinki Declaration as revised in 2013. The legal guardians of each study participant gave their verbal consent for access to their personal data, which was strictly required for study quality control. All persons involved in this research project are subject to professional confidentiality.

### Withdrawal from the Study

All research participants had the right to withdrawal from the study without justification at any time and with assurances of no prejudicial result. If participants decided to withdraw from the study, they were no longer followed up in the research protocol. There were no withdrawals from this study.

### Treatment

In this study, intensive EMDR therapy was provided [41,42]. Evidence suggests that more frequent scheduling of treatment sessions maximizes PTSD treatment outcomes [43]. This intensive format allowed the participants to complete the full course of treatment in a short period. Participants completed a total of six treatment sessions provided during two consecutive days, three times a day.

### Therapists and Treatment Fidelity

Provision of the EMDR-IGTP-OTS was supervised by two licensed EMDR clinicians formally trained in the protocol administration. Thirty local Eritrean refugee social workers collaborated with the clinicians. Treatment fidelity and adherence to the protocol was fulfilled by strict observance to all steps of the scripted protocol.

### EMDR-IGTP-OTS Treatment Description and Tolerance

An individual history taking, and assessment session, were conducted for each potential group member to determine their suitability and readiness for EMDR treatment, following standard procedures. Treatment was supervised by two EMDR certified therapists. Each of the participants received an average of five hours of treatment, provided during six group treatment sessions, three times daily during two consecutive days in a setting inside the Shimelba refugee camp in Ethiopia. EMDR-IGTP-OTS treatment focused only on the distressing memories related to their life as refugees and did not address any other memories. During this process, participants followed directions from the team leader and worked quietly and independently on their distressing memories. First treatment session lasted 75

minutes. Subsequent five treatment sessions lasted an average of 45 minutes. Time for rest in between sessions lasted an average of one hour and a half.

Activities during rest time included socializing and teatime. To encompass the whole ongoing traumatic stress spectrum, the team leader asked each of the participants to “run a mental movie of everything that happened just before their lives as a refugee until now, or even looking into the future.” The initial treatment target was the most distressing moment in the mental movie. In subsequent sessions, the team leader asked patients to run the mental movie again and then to target any memory that is currently disturbing, noticing associated emotions and body sensations. Participants in this study used the Butterfly Hug (BH) 36 times as a self-administered bilateral stimulation method to process traumatic material [23]. During the BH, patients are instructed to stop when they felt in their body that is had been enough. The instruction allows for enough sets of bilateral stimulation (BLS) to processing the traumatic material and helps to regulate the stimulation to maintain the patients in their window of tolerance allowing for appropriate reprocessing [44,45]. All participants reprocessed more than one memory. No adverse effects were reported during treatment or at one-month post-treatment assessment.

**Examples of Worst Experiences Reprocessed During Treatment**

Generally, the worst experiences that the children reprocessed were related to their journey of crossing the Eritrean/Ethiopian border into the Shimelba refugee camp and/or the lack of knowledge the children have about their family and friends from home. Contact between people in Ethiopia and Eritrea were completely cut off, so many children will leave their friends and family behind and not know how they are doing. During the journey crossing the border, often times the children had memories of being chased and shot at by Eritrean soldiers, being chased by hyenas or almost drowning when swimming across the river. Others reprocessed flash-forwards related to their uncertainty about the future.

**Statistical Analysis**

All 48 participants were included in the statistical analysis. Paired t-tests were performed for pre- and post-test scores for the PCL-5 and the depression and anxiety scales of the HADS. For the PCL-5, there was a significant difference between the pre-test (M=42.63, SD=14.69) and post-test (M=27.46, SD=16.83);  $t(47) = 4.43, p < 0.0001$ . For the HADS-depression, there was a significant difference between the pre-test (M=9.31, SD=3.71) and post-test (M=5.88, SD=4.88);  $t(47) = 4.43, p < 0.0001$ . For the HADS-anxiety, there was significant difference between the pre-test (M=10.65, SD=4.03) and post-test (M=6.73, SD=4.89);  $t(47) = 3.99, p < 0.001$ . There were significant differences related to gender. Females scored significantly lower on the PCL-5 post-test (M=21.55) than males (M=31.68);  $t(45.196) = -2.21, p < 0.05$ . Females also scored significantly lower on the

HADS anxiety scale post-test (M=4.95) than males (M=8.00);  $t(45.916) = -2.33, p < 0.05$ . On the HADS depression scale females scored significantly lower on the pre-test (M=6.85) than males (M=11.07);  $t(44.46) = -4.78, p < 0.0001$ . Females also scored lower on the HADS depression scales post-test (M=4.05) than males (M=7.18);  $t(45.437) = -2.49, p < 0.05$ . There was no significant interaction between gender and scores on PCL-5 or HADS. The differences between pre- and post-test scores for the PCL-5 and HADS anxiety and depression scales were significant for both males and females when analyzed separately. After a Holm’s method adjustment for multiple comparisons, there were no significant correlations between the outcome measures and age, education, or time as a refugee. There were no significant differences due to religion or ethnicity (Figures 1-3).

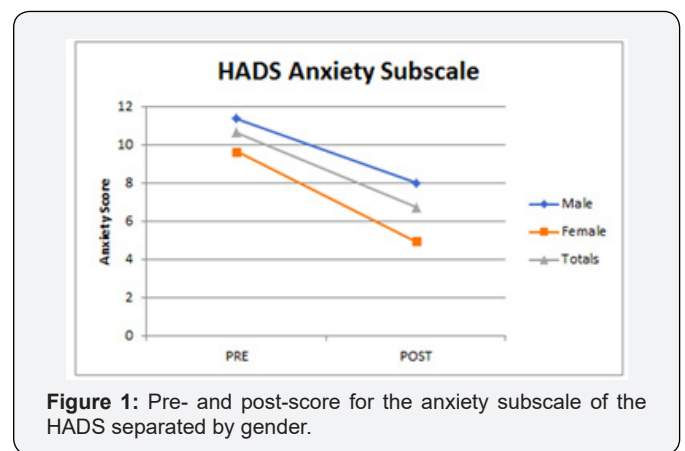


Figure 1: Pre- and post-score for the anxiety subscale of the HADS separated by gender.

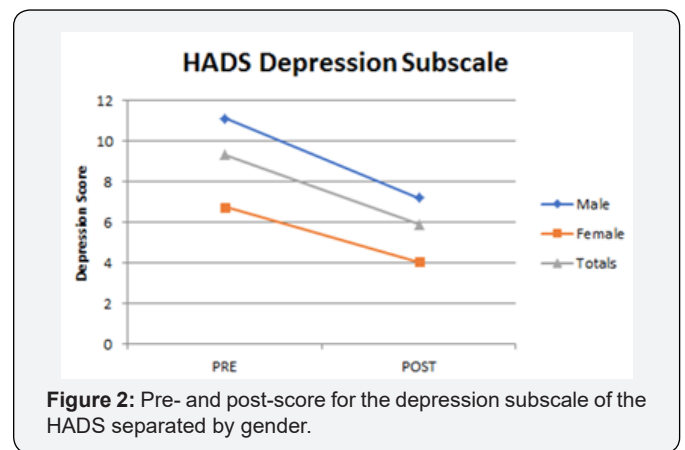


Figure 2: Pre- and post-score for the depression subscale of the HADS separated by gender.

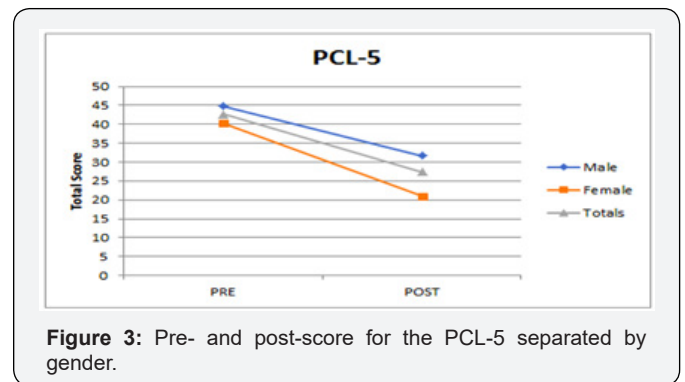


Figure 3: Pre- and post-score for the PCL-5 separated by gender.

## Clinical Case Study

Rarely do we have the opportunity to look inside an unaccompanied and separated refugee minor's mind to see the effects psychological trauma has had on their development. EMDR-IGTP-OTS grants us this rare and compelling insight into the refugee experience, their memories of distress, and future thoughts. This protocol, which is entirely nonverbal, helped communicate aspects of memories that otherwise would have been left untreated. By using the EMDR-IGTP-OTS we can begin to see the memory transform from dysfunctional stored experiences into an adaptive resolution process in the client's artwork as the fragmented pieces of trauma come together to make meaning of an ongoing traumatic experience. Memory consolidation is the brain's natural, neural process that can produce transformational change. In the reconsolidation process, a target learning is first rendered revisable at the level of its neural encoding, and then revision of its encoding is brought about through new learning or by using art to address the non-verbal core of traumatic memory. Neurobiology suggests that memory is an active and constructive process, and that, "the mind constantly re-assembles old impressions and attaches them to new information". By analyzing the client's drawings, we can track the process of new information being accessed, affective material being metabolized and integrated, leading to transformation of traumatic memory and an adaptive resolution of the trauma [46].

## The Client

To assure the highest level of confidentiality, the individual client in this study is referred to as "the client." Appropriate safeguards were placed to assure the protection and ethical treatment of the client. The client is a 16-year old male, Eritrean refugee living in a refugee camp in Ethiopia for the past two years. Developmentally, he is in the second grade in school. He sought assistance because of significant disruption in his daily functioning. The present complaint from the child's caretaker is that he is isolated, selectively mute and developmentally behind in school. The caretaker and social worker reported knowing only a few details about the child's history, due to the client being very quiet and sharing very little.

## Client History

The client has a childhood history growing up in a dictatorship country (Eritrea) where his family and others were frequently controlled, threatened, persecuted and in constant distress. The client lived near the Eritrean/Ethiopian border where many landmines were planted during the Ethio-Eritrea war in 1998. As a result, two of the client's brothers were killed by stepping on landmines at different times. The interview with the client revealed that the client witnessed the event which took the life of his youngest brother and heard of the incident which took his eldest brother's life. The client also reported a traumatic incident at home of falling off the roof of his house and also jumping out of a moving car. The client did not verbally

explain the context of these situations. Additionally, the client experienced trauma when he was crossing the border of Eritrea to the refugee camp in Ethiopia where he currently resides – a total of 40 miles distance by foot. During this time, he was chased by soldiers with guns, harassed by hyenas and almost drowned in a river.

The client now lives in the Shimelba refugee camp in Ethiopia with a male caretaker. The client is considered an unaccompanied minor, meaning he arrived at the refugee camp by himself and is under the age of 18. He appears to cope with his traumas by choosing not to talk much, or socialize with others, as a means to control his high social anxiety. This leads to academic impairment, as he is 16 years old, but developmentally performs at a second-grade level. The lack of speech makes it difficult to get a full history of his childhood and traumatic experiences. Because the EMDR-IGTP-OTS is designed to process one's traumatic experiences without talking, it was posited that this intervention would be appropriate for this client.

## Pre-Treatment Assessment

Before treatment, client was described as having characteristics of Selective Mutism 313.23 [47]. No formal diagnosis was given because there are no psychiatrists or psychologists working in the Shimelba refugee camp. His social worker reported social impairment of the client, as he was too anxious to engage in reciprocal social interactions with other children (as evident by his choice at the beginning of treatment to sit separate from his peers). This increased the client's social isolation, which was also reported by his caretaker who explained that the client rarely spoke with his legal guardian family at home in the refugee camp. In school settings, the client suffered academically, as he is a 16-year-old boy who is developmentally in the second grade in school because he often does not communicate with teachers or his caretaker regarding his academic or personal needs. These symptoms had been reported to last over two years since the client arrived at the refugee camp. It was also reported that when the client felt safe enough, such as with his social worker, he was able to speak and be open at times, although brief in nature. As a result of these experiences, the social worker believed that the client's lack of speech was not attributed to lack of knowledge of, or comfort with, the spoken language for the required situation. Before the treatment took place, the research assistants in the camps were able to conduct a pre-treatment assessment to measure the client's symptoms of anxiety, depression and PTSD before treatment took place. The client reported the following scores for the tests: HADS Anxiety (score 19), HADS Depression (score 16), and PCL-5 (score 56). These results indicate "Abnormal (Case)" for anxiety and depression, and a preliminary posttraumatic stress disorder (PTSD) diagnosis based on PCL-5 results.

## Case Conceptualization

In terms of Shapiro's adaptive information processing model, the client had been unable to fully process the memories

of his refugee experience [8]. He appeared to be experiencing an accumulation of traumatic memories causing prolonged periods of overwhelming emotions (such as powerlessness and fear). His response to the traumas appeared in the form of repression, isolation, and selective mutism symptoms, resulting in blocking access to positive memory networks and preventing adaptive information processing from taking place. His poor sleep and re-experiencing of symptoms perhaps served to maintain a sense of current ongoing threat and further blocking of processing.

**Course of Treatment**

As mentioned before, the EMDR-IGTP-OTS was provided as an intensive EMDR treatment inside the refugee camp for a total of 48 Eritrean refugee adolescents. Throughout the course of the treatment, we observed the client’s ability to interact socially and dramatically change within a short period of time. During the morning of the first day (set 1), the client was “too nervous” to sit with the group of Tigrinya boys his age at the table, so he requested to sit at a separate table outside of the group by himself next to his social worker. This way he could still follow along with the instructions, but he did not have to socialize with the other boys. By the afternoon of the first day (set 2), the client chose to sit with the group of other Tigrinya boys at the edge of the table. By the late afternoon of the first day (set 3), the client was sitting in the middle of the table surrounded by his peers. This dramatic shift from social withdrawal and isolation to socialization and integration within a few hours of beginning treatment was noticeable.

During day two of the intervention, the client was the first person to arrive and eagerly waited to begin treatment. Throughout this two-day process, it was witnessed that the client emotionally moved away from isolation, to a more collectivistic experience in both his group interactions and also his drawings (as seen in the Figures and explanations below). He continued to sit in the middle of his group of peers throughout the intervention on day 2. At the end of the intervention, the client chose to talk about his drawings and traumatic experiences that he was processing, stating, “the Butterfly Hugs make me feel better.” At the end of day 2, the group of Eritrean refugee adolescents spontaneously began singing and dancing together after the treatment was complete, which was reported by the local social workers as “unusual.” The client participated in this type of social interaction with his peers as well.

**Outcomes**

**Post-Treatment Results**

Thirty-days after treatment, research assistants interviewed the client for post-treatment results. The client reported the following results: HADS Anxiety (score 5), HADS Depression (score 4), and PCL-5 (score 25). These results indicate “Normal” levels for anxiety and depression, and a significant reduction in PTSD symptoms (Figures 4 & 5). At nine-months post-treatment another assessment was conducted to measure the

client’s symptoms. The client reported the following results: HADS Anxiety (score 2), HADS Depression (score 3), and PCL-5 (score 12). These follow-up results indicate that the client’s reduced symptoms remained low 9-months post-treatment. Researchers received the report of the following improvements in the client’s behaviors from his caretaker and social worker: the client has started to see movies in the cinemas at camp; he now communicates with his friends at school. He has one close friend; he has asked to have a tea with his caregiver. The client will ask to have meals when he is hungry (before he would starve himself for periods of time); and he is able to express himself when he is feeling uncomfortable. The communication with his social worker and his school teachers have also significantly improved. The client has come and asked his refugee status to the service providers, meaning, he talks to the child protection agency in the camp about his refugee case, which he has never done before. At the 9-month follow up, the client’s social worker reported no characteristics of selective mutism [48].

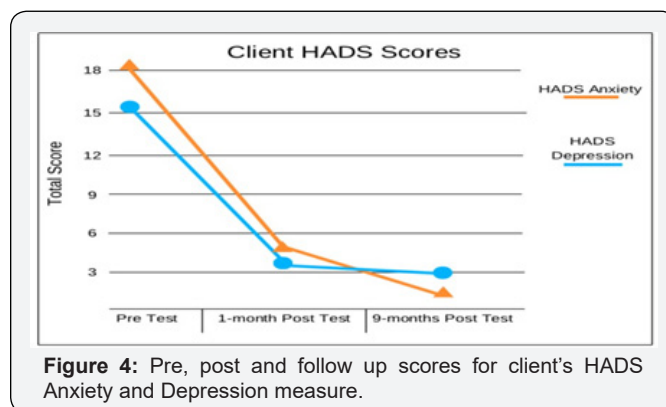


Figure 4: Pre, post and follow up scores for client’s HADS Anxiety and Depression measure.

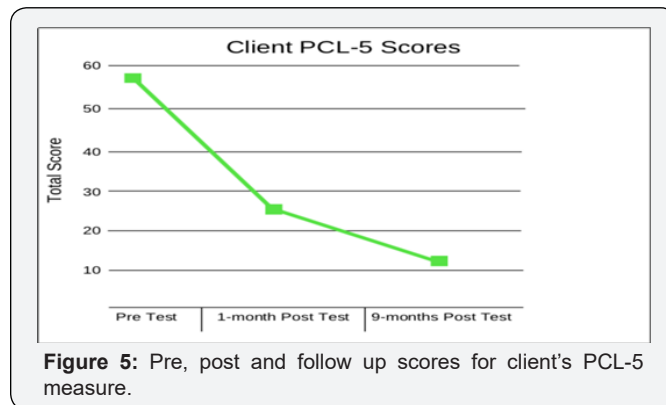


Figure 5: Pre, post and follow up scores for client’s PCL-5 measure.

**Clinical Case Discussion**

Here we explore the artwork of the client. Throughout the EMDR-IGTP-OTS intervention, the client used drawing to express his feelings, in between bilateral stimulation processing. This is advantageous for a group setting perspective and also for those clients who do not want to talk about their traumatic experiences (such as the client in this case study). Within six treatment sets provided in two consecutive days we notice developmental changes within his art that show a process of memory consolidation. Cook et al. [49] explains that when



extreme trauma occurs in early childhood, there is a major shift in the way children process information - going from a learning brain, that is able to take in and explore information, to a survival brain, looking out for danger. Several aspects of these drawings display the evidence of memory consolidation - seen in the images below of a car accident and changes in the human figure.

The client's drawings posit a means to track the client's traumatic memories reprocessing. The protocol shifts the focus away from the story, targeting instead the client's somatic memory and bodily sensations - literally showing the development of a body within the process of the EMDR- IGTP-OTS. Breaking this trauma down into manageable segments, we can see in the art that the client is reprocessing the overwhelming material while coming back into the form of the body. Exploring these images, the lines, shapes, and symbols, is only theory based and it also should be noted that cultural components come into play [50-52].

### Car Drawings

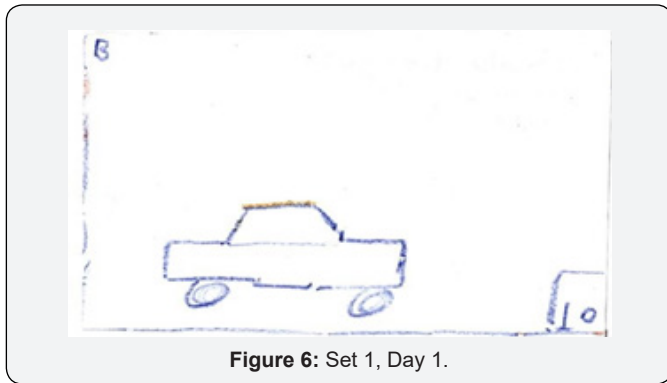


Figure 6: Set 1, Day 1.

During the first EMDR-IGTP-OTS set, the client's first image (Figure 6) of a car was void of people and a clear detachment of his surroundings, showing very little energy or attention to detail. The drawing is without a foundation (all of his images lack a foundation) and the car floats on the paper. The incident is being stored in isolation without access to current resources and stuck in time. This first image shows a low level of detail, which could possibly indicate a high level of disturbance and dissociate from self. We see that his SUD is at a level 10 which coincides with the highest level of subjective distress.

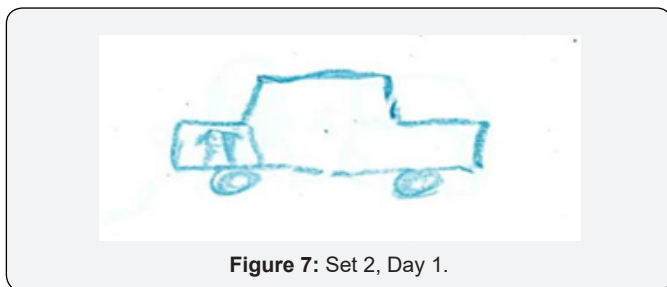


Figure 7: Set 2, Day 1.

In Figure 7, we see a head and torso inside what appears to be the trunk of the car. The somatic memory of a person in the car looks small, scared and helpless, unable to create change in this

trapped car, the image appears to have a low level of realism. It is possible that the client was dissociating during the traumatic experience. The art at this point seems to be of a developmentally younger child around the age of 6-7. It appears that the client is starting to make associations within the memory that indeed there were people in the car, and that he was a part of the car incident. As the processing continues, he is developing access/linkages to additional aspects of the memory.

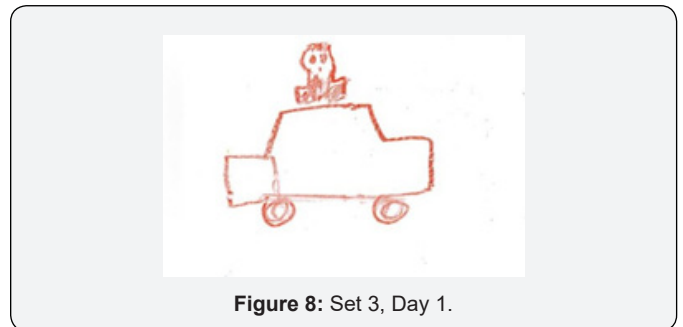


Figure 8: Set 3, Day 1.

We see in Figure 8 the start of what he reported as a car accident, where people were thrown out of the car. He is beginning to bring movement to his drawing and attention to the body. The body is still fragmented, only showing a floating head and shoulders, again possibly indicating parts of disconnection. The face is expressionless, possibly representing a dissociate emotional response or being frozen and trapped in fear. Also noteworthy is that the shape of the body is filled in. Giving this attention to detail is significant because with trauma dissociation being so prevalent, the filled in body possibly signifies coming into his body and into the consolidation of his memory. This movement from being trapped inside the car to the actual moment when his body comes out of the car could represent the steps involved in the car accident and being thrown out of the moving vehicle. The figure is still trapped, yet we see progress in the way memories consolidate to make sense of the steps involved in the car accident. The art and bilateral movements have possibly created a safe space to come back into his body with incremental steps.

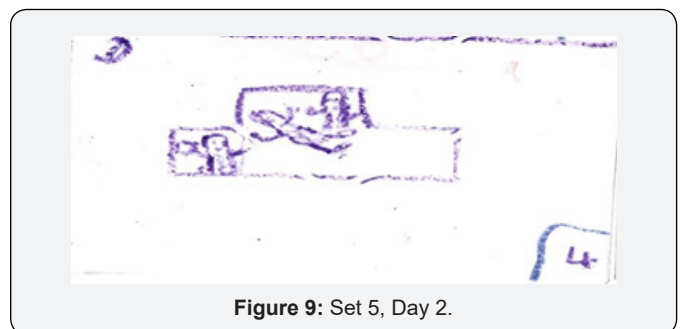
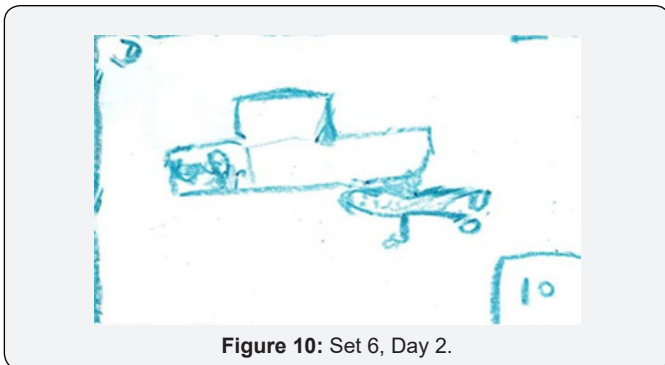


Figure 9: Set 5, Day 2.

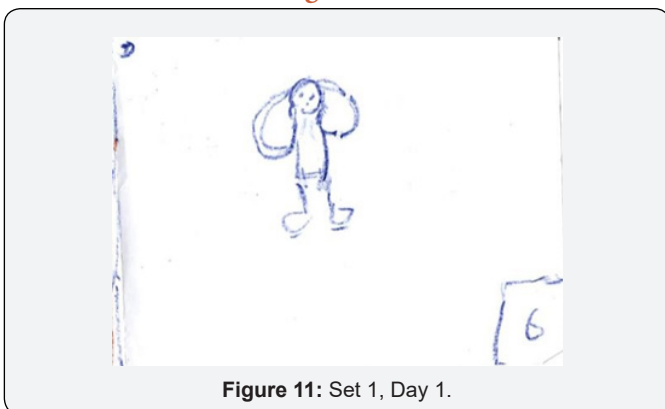
In Figure 9, we see all three passengers from the car accident. The memory could be from the actual perspective of the client inside the car and possibly the reality of actually having three passengers inside the car. Notice that this image shows the omission of car wheels, possibly showing a pause

in the movement of the car. Cars in art can often symbolize freedom, but a car without wheels could represent a feeling of being stuck or trapped. Also, the actual perspective of the client could indicate being inside the car as his memory networks moved from implicit predominantly emotional, sensory, and unconscious memory, to explicit which is episodic, factual, and autobiographical and requiring focal attention. Noteworthy is that all three figures have not only arms but hands, this could indicate a sense of power. He is bringing the memory into sharper focus, with more detail and a clear memory of the whole experience. Seeing the hands and arms could also be significant of coming into a whole-body experience, rather than previously seen with parts of the fragmented self and memories. We start to see movement for the first time, as the two people in the middle and top corner of the car have possibly been tossed inside the car.



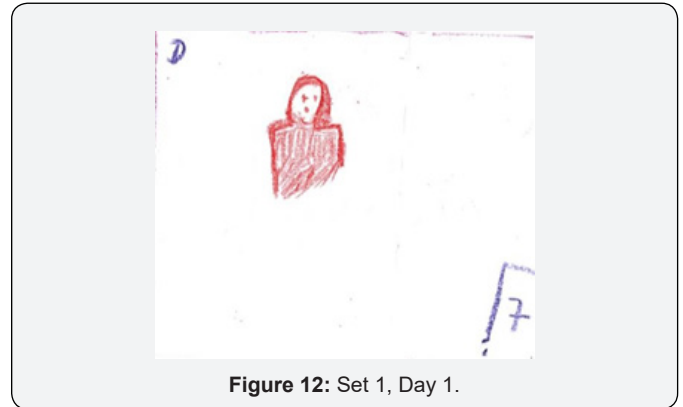
In Figure 10, the client has fallen out of the car - showing a progression of memory and movement from Figure 8 to Figure 10 as the car has now possibly run over or thrown the person from the car. This could represent a reconsolidation of memories as he works through the fragmented memories, putting the pieces back together. We see here a clear progression of the actual experience, possibly making meaning of what has happened and working through the felt sense of terror. From Figures 9-11, we see a progression of memory and movement as the car has now run over the person and is leaving.

**Gestalt of the Human Figure**

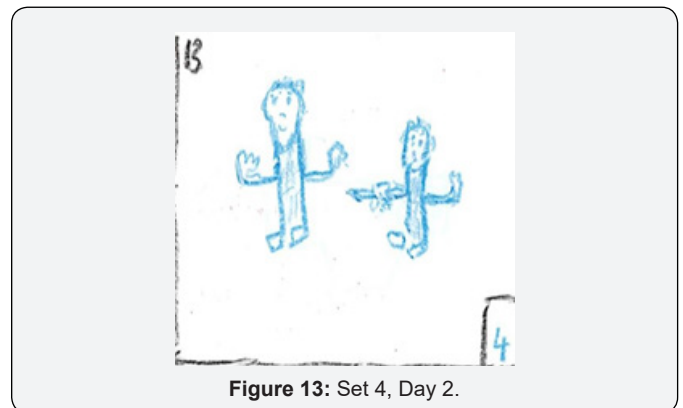


In Figure 11, we see the first sign of an early human form. After years of trauma it is not surprising that this boy would dissociate from both emotional pain and his physical body. All

of the figure drawings done before the last day and last future drawing are of a pre-schematic stage, around the ages of 4-7, with a head, legs and arms often referred to as "tadpoles" [53]. These body types possibly represent when the trauma started for him.



The body is coming into focus, yet the image is still fragmented, without expression, and disorganized. The floating head could possibly relate to a psychic numbness or dissociation following his trauma and multiple near-death experiences (Figure 12). In Figure 13, we see the pre-schematic body type with a loose connection between the head and the trunk of the body. This image shows yet another experience of trauma when he has either witnessed a gun being pointed at someone or had it pulled on himself. This drawing was done on the second day of processing with the EMDR-IGTP-OTS and he is now sharing openly an experience of violence. Children who have experienced violence are often hesitant to depict this in their art, hence indicating a level of trust in himself and the process. This drawing shows how linkages/ associations along the accessing nodes - sights, sounds, cognitions, emotions, sensations - occurs with EMDR reprocessing.



In his final drawing, we see the most drastic schematic change. The drawing is filled in with color, establishing boundaries in the drawing, the expression could be seen as content, with an open book on a table. His figure becomes whole, almost three dimensional with shading, and completely age appropriate. Within this final drawing we see a complete central figure, and the figure has begun to take up more space on the paper, possibly showing greater strength in ego. Note a significant shift in how

he treats the Gestalt of a human body and that could correlate to a decrease in dissociative response to his body. The client gave a title to this drawing stating, "I wish to read and be a clever student."

The artwork produced with this client during the intervention has become a tangible series that tracks the progress the client made in just two days of the EMDR intervention. We can see how new information and memories that are adaptive have come forward in the process and are available to the client. The client has become more active, energized and empowered in this artwork; there is an emphasis on realism and composition. The image has taken on the whole form of a complete body-with clothing. The book has a 3D perspective and is open on the desk and we see a developmentally appropriate plan in front of us. We also see through the art imagery, a rapid reprocessing of traumatic memories; a shift from fear and powerlessness to awareness. The memories were metabolized and integrated within the EMDR-IGTP-OTS two- day intensive therapy process.

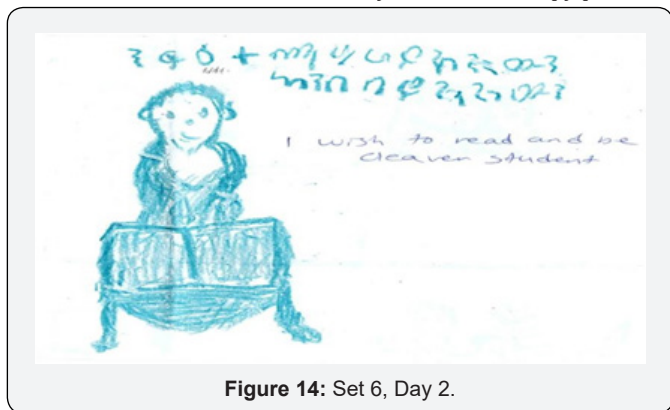


Figure 14: Set 6, Day 2.

### Study Discussion

The main objective of this study was to evaluate the effectiveness of the EMDR-integrative group treatment protocol for ongoing traumatic stress (EMDR-IGTP-OTS) in reducing posttraumatic stress disorder (PTSD), depression, and anxiety symptoms in adolescent refugees living inside Shimelba refugee camp in Shiraro, Ethiopia. A secondary objective was to present one clinical case of a male adolescent Eritrean refugee with characteristics of selective mutism and symptoms of PTSD, anxiety and depression. The 48 participants in the research study, reprocessed their refugee-related traumatic memories with efficiency (only six group sessions during two consecutive days, three times a day), and efficacy, as we can see in the differences between pre-and post-treatment scores for the PCL-5 and HADS. Those scores showed a significant improvement in PTSD, anxiety and depression symptoms for both males and females. Additionally, the Eritrean refugee adolescent highlighted in the clinical case study also showed significant change in reducing PTSD, anxiety, depression symptoms and selective mutism characteristics from pretreatment and posttreatment results, with the symptoms remaining low at the nine-month follow up.

Trauma can result in developmental arrest, as evidenced by: (a) stunted ego development, (b) a common enacting of patterns

of behavior and interactions more appropriate to an earlier developmental stage (developmental arrest), (c) a longing to turn back the clock to the time before the trauma occurred, and (d) stuck in a time when the trauma happened. With the EMDR- IGTP-OTS, it appears that this client was able to progress developmentally. Regressive art, or art that looks to be created by a much younger person, can indicate how emotionally underdeveloped a client is due to a traumatic experience. Noticing that his development progressed in just in a matter of two days, shows something very unique and powerful within this intervention. The intervention also showed reduced distress relating to the future in this client. This was apparent in reduced Subjective Unit of Distress (SUD) scores and the therapist's subjective perceptions within the art development. Challenges included not having a private space to hold the session in, the language barrier, and communication across cultures.

### Conclusion

Studies evaluating the efficacy of psychological treatments for PTSD, anxiety, and depression carried out in African refugee camps are rare and greatly needed. This study highlights the need for mental health services within the refugee camps. The study results indicate that with the EMDR-IGTP-OTS, organizations could have the ability to scale up treatment to serve the masses through an intensive, group intervention that can serve many refugees at one time. The results of this research show that the EMDR-IGTP-OTS could be an important component of a multidisciplinary approach to reducing or eliminating PTSD, anxiety and depression symptoms in adolescent refugees living in refugee camps.

### Limitations and Future Directions

This study has several limitations, notably the pretreatment and posttreatment measurement design without a control group and the small sample size. Future research with randomized controlled clinical trials with larger samples using an instrument to conduct formal PTSD diagnosis (e.g., CAPS-5), with follow-up at six or twelve months when possible to evaluate long- term effect in both male and female participants is highly recommended.

### Conflict of Interest and Funding

The authors have no relevant financial interest or affiliation with any commercial interest related to the subjects discussed in the article. This research received no specific grant from any funding agency, commercial or not-for-profit sectors.

### Acknowledgement

We want to express gratitude to the following individuals for their contributions: Dr. Ignacio Jarero, Lindsay Provan, Brittany Redman & John Stauffer.

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DOI: [10.19080/PBSIJ.2019.12.555842](https://doi.org/10.19080/PBSIJ.2019.12.555842)

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