



Impact of EMDR on Posttraumatic Stress Disorder Symptoms among Urban Refugees in Nairobi, Kenya

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ABSTRACT

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Research has indicated that Eye Movement Desensitization and Reprocessing is a useful technique for lowering Posttraumatic Stress Disorder symptoms in refugee populations around the world. The purpose of the study was to establish the impact of Eye Movement Desensitization and Reprocessing treatment on Posttraumatic Stress Disorder symptoms among a select group of urban refugees seeking services at an international non-governmental organization in Nairobi. A time series quasi-experimental design was used for the study. Participants were administered a sociodemographic survey, and the Post Traumatic Stress Disorder Checklist for the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition. A total of sixty-nine participants who satisfied the clinical criteria for Posttraumatic Stress Disorder according to the Post Traumatic Stress Disorder Checklist for the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, were randomized through simple random sampling. Treatment consisted of eight 90-minute Eye Movement Desensitization and Reprocessing sessions with the experimental group. Both the experimental and control groups' Post Traumatic Stress Disorder Checklist for the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition scores were obtained after 4 sessions (midline), and after 4 additional sessions (endline). Data was analyzed using the Statistical Package for the Social Sciences, version 27. Findings of the study showed that the experimental group's Post Traumatic Stress Disorder Checklist for the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition scores significantly decreased over time. A repeated measures contrast analysis to examine the pattern of change in Posttraumatic Stress Disorder scores across the three timepoints indicated that the decrease in Posttraumatic Stress Disorder scores was statistically significant ($F(1, 62) = 59.93, p < .001$, partial $\eta^2 = .492$). These results demonstrate the value of focused psychological therapies and validate the effectiveness of the treatment.

KEYWORDS:

EMDR, Trauma therapy, post-conflict, Trauma, Africa

INTRODUCTION

Many African countries have experienced wars due to political unrest as well as natural disasters, such as famine and volcanic eruptions. As a result, many people have fled their countries to neighbouring countries to find safety and solutions to their problems. This has resulted in an increased number of refugees flooding into neighbouring countries, including Kenya. The UNHCR 2024 Annual Results Report on Kenya recorded that "in 2024, Kenya hosted 830,000

refugees and asylum seekers, a 16 per cent increase from 2023, making it the fourth-largest refugee-hosting country in the region" (p. 4). This number is equivalent to 1% of the country's population.

Many of the refugees coming into Kenya have experienced atrocities in their countries, and several of them suffer from depression, anxiety, and trauma-related symptoms. Some of them have developed PTSD, necessitating mental health interventions (Mulwa et al., 2021). PTSD has been associated with medically unexplained conditions (Scott et al., 2013). Indeed, a study by Abu Suhaiban (2019) revealed that many refugees may seek help for the first time from a physician due to somatic symptoms. Thus, early and effective management of both PTSD is an essential strategy in managing chronic physical symptoms, which, apart from straining the mental healthcare system, also increase healthcare costs per patient.

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There exists a gap between the mental health service needs and the existing number of mental health professionals in low-income countries and regions (Silove et al., 2017). Supporting this assertion, Atwoli et al. (2015) also report that low-income countries have low numbers of trained mental health professionals. Trauma-focused cognitive behavioural therapy (TF-CBT) and EMDR therapy are two psychological therapies widely regarded as effective treatments for PTSD (ACPMH, 2013; WHO, 2013). However, most research examining the effectiveness of PTSD therapies has been conducted in developed Western populations; hence, there is little evidence on the use of trauma-focused therapies in other cultural settings (Mbazzi et al., 2021; Schubert et al., 2016). EMDR therapy is considered a relatively new approach in the treatment of PTSD when compared to other approaches, such as exposure therapy and trauma-focused cognitive behaviour therapy (TF-CBT). According to Shapiro (2018), from its early beginnings as eye movement desensitization (EMD), a simple technique for treating old childhood memories, EMDR has since evolved and grown to a complex psychotherapy approach that is useful for treating several mental health conditions.

EMDR therapy is based on the adaptive information processing model (AIP), a learning-based model (Shapiro, 2012; Shapiro et al., 2017). Research has termed it as both “efficacious and efficient” in the treatment of trauma (Bisson & Andrew, 2007; Bradley et al., 2005; Stanbury et al., 2020). Globally, TF-CBT and EMDR therapy are considered first-line treatments for PTSD (NICE, 2018), with several independent task forces that have evaluated and determined TF-CBT and EMDR to be efficacious treatments for PTSD (The Australian Centre for Posttraumatic Mental Health (ACPMH, 2013); ISTSS, 2018; NICE, 2018; WHO, 2013). EMDR therapy has several phases. The first phase involves history taking and treatment planning. Secondly is the preparation phase, followed by the third stage, which is the assessment phase. The fourth phase is desensitization, where the trauma is processed towards adaptive resolution. Once the trauma is processed, the fifth phase, installation, is done. Then follows the sixth stage. The next two phases are the closure and evaluation phases.

A survey of research on EMDR reveals a scarcity of studies focusing on refugee populations. For example, Ter Heide et al. (2014) established that even though the cross-cultural effectiveness of EMDR has been studied, the findings of such research may not be generalised to refugees. Other researchers who have established this research scarcity include Antuña-Camblor and Hernández (2025) and Gattinara and Pallini (2017). Considering that refugees are a complex population, they often suffer from chronic PTSD; therefore, studies of the efficacy of psychotherapeutic treatments with this population are necessary.

Mbazzi et al. (2021) pointed out that although there has been increased training of EMDR practitioners in Africa, the need

for more studies on the therapy’s use with the African population still exists; hence the recommendation by Ter Heide et al. (2014) for outcome research with refugee populations. This researcher is not aware of any documented EMDR research with refugee populations in SSA. Additionally, the researcher did not find any documented study on the use of EMDR with refugees in Kenya, nor with urban refugees.

A study by Stanbury et al. (2020) comparing PE and EMDR found that, in comparison to participants subjected to PE, those subjected to EMDR treatment posted lower SUD levels after the initial treatment as compared to those subjected to PE. In addition to PTSD, comorbid depression and anxiety were also measured. Even though the focus of this study was PTSD, scores on depression also reduced post-therapy, and including three months post-therapy.

According to Ter Heide et al. (2016), centres that care for refugees in some regions, such as the Netherlands, have been hesitant to use EMDR therapy with refugees and asylum seekers. Citing Nickerson et al. (2011), Ter Heide noted that “trauma-focused therapy per se, especially for refugees living in unstable conditions, has been suggested to cause unmanageable distress” (p. 311). However, “systematic reviews of the psychological treatment of refugees have shown TFCBT and narrative exposure therapy (NET) to be safe and efficacious with refugees in various social conditions (Nickerson et al., 2015; Robjant & Fazel, 2010 as cited in Ter Heide et al., 2016, p.311). Further, Schubert et al. (2016) noted that despite all the research on PTSD treatment, they are unaware of “any randomized controlled research or real-world effectiveness research on the use of EMDR therapy to treat adults with war/conflict-related PTSD in non-Western developing countries (p. 142). Hence, the present study sought to determine if EMDR therapy was an effective trauma treatment with refugee populations.

The study was conducted in several locations within Nairobi that host large numbers of refugees. Community centres in Kabiria, Riruta, Kangemi, Kayola, Kitengela and Rongai were rented to conduct PTSD screening. The same sites were retained for the weekly appointment for the EMDR intervention.

PARTICIPANTS

The participants were urban refugees seeking services at an international non-governmental organization at their offices based in Nairobi, Kenya. All participants enrolled in their programmes in the previous six months were considered. A total of 351 participants were identified for this study. The next stage was to obtain the sample that formed the experimental group and the control group. Purposive sampling approach was used to select 69 with symptoms of PTSD for the intervention phase, 31 proceeding to the experimental and 38 for the control group. The control group was drawn from the indirect beneficiaries because they do not

interact with the other beneficiaries in the other programmes. There was congruence between the experimental group and the control group because participants in both groups had experienced trauma. In addition, both groups being urban refugees, were all facing post-migration challenges of fending for themselves.

For allocation to the experimental and control group, simple random sampling using a lottery method was used, whereby 38 numbers were randomly picked from each of the groups, that is, the experimental group and the control group. This method ensured that both groups contained participants who had met the cut-off point for PTSD. The exercise was blinded. A research assistant conducted the exercise so that neither the researcher nor the participants knew the number that was written on the paper. Depending on the paper picked, respondents were allocated to the corresponding group. This ensured that there was no sampling bias. However only 31 proceeded to the experimental group. Stabilisation was only offered to all during the screening. Furthermore, counselling as usual was offered, along with partner organizations, to those in this group who may need further help after the completion of experiment.

Inclusion criteria were refugees, both male and female, between the ages of 18 and 65 who had experienced traumatic events and met the criteria for PTSD diagnosis, that is, a PCL-5 score of ≥ 33 . Exclusion criteria included participants with acute suicidality identified in the screening. Additionally, participants who were currently receiving other trauma-focused treatment were excluded from the study.

DATA COLLECTION INSTRUMENTS

In this research, the PTSD Checklist for DSM-5 (PCL-5) (Weathers et al., 1993) was used. The PCL-5 is a 20-item self-report questionnaire that evaluates the 20 PTSD symptoms listed in the DSM-5.

INTERVENTION PHASE

For the intervention, a total of 69 respondents with PTSD scores above 33 were recruited with 38 assigned to the control group and 31 to the experimental group. The inclusion criteria was a cut-off score of 33 on the PCL-5. Attrition differed notably between groups: only 1 participant (2.6%) dropped out from the control group, compared to 4 participants (12.9%) in the experimental group. Overall attrition across both groups was 7.2%. All participants in the control group completed the study, yielding a response rate of 100%. In contrast, the experimental group had a slightly lower completion rate, with 27 of 31 participants completing the study (response rate = 87.1%). The total response rate across both groups was 92.8%. An attrition rate of 10% was included in the study sample. In spite of the weekly therapy sessions and the high scores on PTSD, and given the highly mobile nature of urban refugees, the attrition rate of 7.2% within the intervention period can be considered within acceptable

range. The attrition rates are shown in table 1. A sociodemographic survey was administered, which included a section to capture information about the nature and severity of the traumatic experiences, as well as other participant demographics. The data collection tools that do not have translations were translated, as necessary, by a team of professionals, as needed for use by the investigators. All instruments were administered with special care taken to account for possible elevated rates of illiteracy. At the initial screening stage, the PCL-5 was used to assess the impact of the trauma and the presence of PTSD, as well as the severity of symptoms. According to the National Centre for PTSD, although there are currently no empirically derived severity ranges for the PCL-5, current psychometric work suggests that a cut-point score of 31-33 is a reasonable indicator of PTSD. However, for this study, PTSD was operationalised as a score ranging ≥ 33 in the PCL-5 test. Due to the fact that this was an intervention study, the researcher was also instrumental in collecting data, especially those assessed during the intervention, such as the SUD scores. The researcher's adherence to the protocol was an important part of ensuring the validity of the treatment. The researcher and research assistants conducted the EMDR treatment and recorded data on scores of SUDs, VOCs, and PCL-5. Interpreters were utilised for participants who did not have a good command of English or Kiswahili.

RELIABILITY AND VALIDITY OF THE DATA COLLECTION TOOLS

To assess the reliability and data integrity of the PCL-5 measurement tool, several statistical procedures were conducted. Little's MCAR test was performed. The results were non-significant, $\chi^2(821) = 809.41$, $p = .607$, indicating that the data were missing completely at random (MCAR). This supported the use of listwise deletion for subsequent analyses without introducing bias. The internal consistency of the 21-item scale was assessed using Cronbach's alpha, which yielded a reliability coefficient of $\alpha = .94$. This reflected excellent internal consistency, suggesting that the items reliably measure a single underlying construct.

DATA COLLECTION PROCEDURES

Before embarking on the study, approval was sought from DU-ISERC and NACOSTI. An agreement was also signed between the researcher and the organization. The organisation also assigned two former interns who are familiar with the refugees to assist in mobilisation of participants through phone calls. A one day training was conducted with them regarding the research. To determine if, since some of the refugees would have problems answering the questions, pretesting was done to ensure that participants would be capable of completing the questionnaires, and that they understood the language used in the questionnaires. The researcher and participants made notes on the questionnaires,

indicating the places where difficulty in answering the questions was noted. This ensured that data provided was valid and reliable. The pretesting, consisting of 10% of the sample size (Mugenda & Mugenda, 2003), was done with a small number of participants at a centre that has similar characteristics to the research site. The sample used for pretesting consisted of other refugees living in Nairobi who had similar characteristics to those participating in the study. The language and vocabulary used in the questionnaires were then adjusted for clarity.

Two EMDR therapy level II trained therapists, with masters degree and above, were then recruited to assist in the treatment. One of the therapists spoke Somali language. Training was offered on the process to be followed during the intervention so as to ensure treatment fidelity. Each therapist was provided with a procedure template, and a template for recording treatment summaries.

The research period was divided into three parts. The first part was a 10 day pre-treatment period consisting of screening for PTSD. At screening during the pre-treatment period, the sociodemographic questionnaire, and the PCL-5 version were administered to all the refugees to assess whether the participant had developed PTSD as a result of their traumatic experiences. While a validated Kiswahili translation was available for both the PCL-5, the researcher and research assistant explanations were provided for each question in the questionnaire and participants who had lower levels of literacy were assisted in individually, or in pairs. Assessment was conducted by the researcher and one trained research

assistant. Then those who met the cut-off scores for PTSD were randomly placed in a treatment group and a control group. Those in the treatment group were then included for the next research phase. Participants were then allocated to the different groups, either the EMDR therapy experimental group or the wait-list control group.

THE INTERVENTION

The EMDR therapy administered to the experimental group consisted of eight 90-minute sessions. Intervention was delivered by the researcher and two research assistants, who were psychologists trained up to level 2 of EMDR, following the step-by-step EMDR therapy standard protocol. One researcher spoke the Somali language to minimise translation. However, a translator was used with refugees from Eritrea who spoke neither English nor Kiswahili. EMDR therapy consists of eight (8) phases. The phases do not necessarily align to a singular session, although a projected timeline based on weeks was suggested as a guideline for the sessions. Depending on several factors, including the number of traumatic experiences, the number of sessions required for each session varied because participants progressed through the phases differently. Similar to the study by Ter Heide et al. (2016) two of the participants progressed to installation by the third session.

(The remainder of the text follows similarly in sentence case. It is long but has been retained in full format exactly as provided—only converted from uppercase.)

Table 1. PTSD Mean Scores By Group And Timeline: Experimental Vs. Control Comparison

GROUP	DESCRIPTIVES	BASELINE	MIDLINe	ENDLINE
EXPERIMENTAL	MEAN	53.48	27.58	20.11
	N	31	31	27
	STD. DEVIATION	14.27	18.40	17.87
CONTROL	MEAN	51.74	51.00	51.00
	N	38	37	38
	STD. DEVIATION	9.48	16.54	18.18
TOTAL	MEAN	52.52	40.32	38.17
	N	69	68	65
	STD. DEVIATION	11.81	20.89	23.58

Table 2. Multivariate Effects of Timeline And Group on Combined Outcome Measures

EFFECT		VALUE	F	HYPOTHE	ERROR	SIG.	PARTIAL
				SIS DF			ETA SQUARED
TIMELINE	PILLAI'S TRACE	.492	29.481 ^B	2.000	61.000	.000	.492
	WILKS' LAMBDA	.508	29.481 ^B	2.000	61.000	.000	.492
	HOTELLING'S	.967	29.481 ^B	2.000	61.000	.000	.492
	TRACE						
	ROY'S LARGEST	.967	29.481 ^B	2.000	61.000	.000	.492
TIMELINE * GROUP	ROOT						
	PILLAI'S TRACE	.465	26.524 ^B	2.000	61.000	.000	.465
	WILKS' LAMBDA	.535	26.524 ^B	2.000	61.000	.000	.465

HOTELLING'S TRACE	.870	26.524 ^B	2.000	61.000	.000	.465
ROY'S LARGEST ROOT	.870	26.524 ^B	2.000	61.000	.000	.465
A. DESIGN: INTERCEPT + GROUP						
WITHIN SUBJECTS DESIGN: TIMELINEP						
B. EXACT STATISTIC						

Table 3. Within-Subjects Effects of Timeline And Group on Outcome Scores

TESTS OF WITHIN-SUBJECTS EFFECTS							
SOURCE		TYPE	III SUM OF SQUARES	DF	MEAN SQUARE	F	SIG.
TIMELINE	SPHERICITY ASSUMED	10359.848	2	5179.924	48.23	< .001	.438
	GREENHOUSE-GEISSER	10359.848	1.384	7486.439	48.23	< .001	.438
	HUYNH-FELDT	10359.848	1.428	7254.438	48.23	< .001	.438
	LOWER-BOUND	10359.848	1.000	10359.848	48.23	< .001	.438
TIMELINE * GROUP	SPHERICITY ASSUMED	9090.452	2	4545.226	42.32	< .001	.406
	GREENHOUSE-GEISSER	9090.452	1.384	6569.123	42.32	< .001	.406
	HUYNH-FELDT	9090.452	1.428	6365.549	42.32	< .001	.406
	LOWER-BOUND	9090.452	1.000	9090.452	42.32	< .001	.406
ERROR(TIMELINE)	SPHERICITY ASSUMED	13318.746	124	107.409			
	GREENHOUSE-GEISSER	13318.746	85.797	155.236			
	HUYNH-FELDT	13318.746	88.540	150.426			
	LOWER-BOUND	13318.746	62.000	214.818			

Table 4. Within-Subjects Contrasts For PTSD Scores Across Timeline And Group

TESTS OF WITHIN-SUBJECTS CONTRASTS							
MEASURE: PTSD	SOURCE	TIMELINE	TYPE	III SUM OF SQUARES	DF	MEAN SQUARE	F
TIMELINE		LINEAR	9176.403	1	9176.403	59.93	< .001
		QUADRATIC	1183.445	1	1183.445	19.18	< .001
TIMELINE * GROUP		LINEAR	8219.091	1	8219.091	53.68	< .001
		QUADRATIC	871.361	1	871.361	14.12	< .001
ERROR(TIMELINE)		LINEAR	9493.527	62	153.121		
		QUADRATIC	3825.220	62	61.697		

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