



# Effectiveness of NET in the Treatment of Post-Traumatic Stress Disorder and Depression among Bereaved Adolescents in Selected Children's Homes in Kajiado County, Kenya

Sheba Atieno Okumu\*, Solomon Nzyuko and Winnie Waiyaki  
Department of Psychology and Counseling, Daystar University, Nairobi, Kenya.

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## ABSTRACT

Narrative Exposure Therapy's application was discovered by a research on African refugee's settlement. NET was noted to help people who have been traumatized confront their painful memories and feelings than Supportive Counseling and Psycho education. Narrative Exposure Therapy uses techniques that aim at reducing the level of distress with memories of the event and quelling the resultant physiological reactions through narration and exposure. NET has also been noted to be better than other types of psychotherapy and psychosocial interventions in post conflict settings. Narrative Exposure Therapy (NET) a short-term treatment for post-traumatic stress disorder can be applied in low and middle income, in post conflict settings. The purpose of this study was to evaluate the efficacy of NET in reducing symptoms of PTSD and depression among bereaved adolescents in selected children's homes. The study took place in 8 children's homes in Kajiado County, Kenya. The sample size was 154 bereaved adolescents aged 12-18 years. All the respondents provided informed consent. Respondents were administered a socio demographic questionnaire which captured the age, gender, level of education, and respondents status of significant others. University of California Los Angeles (UCLA) Post Traumatic Stress Disorder Reaction Index was used to identify the types of traumatic events that bereaved adolescents had experienced. NET was found effective in reducing symptoms of PTSD as seen in reduced mean scores from base-line  $3.1923 \pm (SD: .55963)$  to mid-line  $2.2308 \pm (SD: .50768)$  and from mid-line to end-line  $1.4359 \pm (SD: .49908)$ . The reduction was statistically significant at  $p=0.0001$ . NET was effective in reducing symptoms of depression as seen in reduced mean scores of the experimental group at base-line (3.04), mid-line (2.39) and end-line (1.23) seen in  $p=0.0001$  compared to the control group. This study confirmed that NET as an effective treatment of PTSD among bereaved adolescents and it is therefore recommended that mental health workers should apply NET in adolescents specifically bereaved and presenting with PTSD symptoms.

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## Introduction

Adolescence is a period of vulnerability for a host of well documented biological, behavioral, social and structural reasons (Kim, 2014). It is described as a difficult stage with major body, behavior, and emotional changes (WHO, 2015). As a result of the immense changes that adolescents experiences, the adolescence stage is characterized by intense and frequent negative outcomes (Casey, Jones, Levita, Patwell, & Rubberry, 2010). They are faced with many traumatic experiences, which if not checked can lead to PTSD and its comorbidities.

Psychological support and care for bereaved adolescents presenting with PTSD and depressive symptoms has remained an area of neglect especially in children's homes in Kenya (Atwoli, et al., 2014). Considering that these institutionalized care centers cater for both children and adolescents who have been bereaved and sometimes have experienced multiple traumas, it is unfortunate that more often than not, the psychological wellbeing of the bereaved individual is not prioritized (Karadag & Ozcebe, 2011). Sadly, bereavement is a severe stressor that typically incites

painful and devastating symptoms that if left unmanaged, increases vulnerability to psychopathology (Holland, 2014). There is therefore need for a cultural based intervention program geared towards enabling the bereaved adolescents to resolve grief and traumas in order to restore their psychological wellbeing.

Adolescents who experience trauma develop an internalizing personality style due to having developed PTSD which as a result leads to development of depression. It is therefore necessary to treat both PTSD and its comorbidity depression which complicates treatment. This is because adolescents with PTSD and depression have been found to present with impairment in cognitive and social skills, are more likely to attempt suicide and showed greater levels of distress (Flory & Yehuda, 2015) which creates poor prognosis.

For children play therapy and storytelling techniques are effective in giving the child a chance to express themselves in grief. In adolescents, Trauma-focused CBT interventions are considered effective since they focus on affective expression skills, stress management skills, and cognitive processing

Tele:

E-mail address: [Shaomak2015@gmail.com](mailto:Shaomak2015@gmail.com)

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reaction of the child's trauma narrative, and cognitive processing (Forman-Hoffman, et al., 2013).

There are several therapeutic methods for treating PTSD such as the psychodynamic therapy and supportive counseling in the general population (Gillies, Taylor, Gray, O'Brien, & D'Abrew, 2013). As a family of treatment models, CBT has been the treatment model of choice in clinical practice for PTSD (Foa & McLean, 2011). CBT has been considered to be the first choice of treatment of PTSD in adolescents. CBT refers to a class of interventions that share the basic premise that mental disorders and physiological distress are maintained by cognitive factors (Otte, 2011). Some forms of CBT are like cognitive therapy, cognitive processing therapy and prolonged exposure therapy (Forman-Hoffman, et al., 2013).

Specific evidence-based treatments for PTSD include Stress Inoculation Therapy (SIT) and Eye Movement Desensitization Reprocessing (EMDR) (Foa & McLean, 2011). SIT is a flexible, individually tailored, multifaceted form of cognitive-behavioral therapy (Meichenbaum, 2007). It is designed to provide individuals with experience with minor stressors that fosters psychological preparedness and promotes resilience. It is based on the notion that exposing clients to milder forms of stress can bolster both coping mechanisms and the individual's confidence in using his or her coping repertoire (Meichenbaum, 2007).

Eye Movement Desensitization Reprocessing is a treatment for PTSD whereby a patient brings to mind emotionally unpleasant images and beliefs about themselves related to the traumatic event experienced (Gillies, Taylor, Gray, O'Brien, & D'Abrew, 2013). Eye Movement Desensitization Reprocessing is considered successful in treating PTSD in adults (Menon & Japan, 2010). While EMDR and SIT have been shown to be effective in treating adults, research with children and adolescents is not as strong (Nooner, et al., 2012). Narrative Exposure Therapy is proven to be successful than supportive counseling in treating PTSD among adult war victims but had not been used among bereaved adolescents (Adenauer, et al., 2011).

An article review noted that NET was better than other types of psychotherapy and psychosocial interventions in post conflict settings (Neuner, Schuauer, & Klaschik, 2014). The review recommended the application of NET within a sustainable mental healthcare system. Narrative Exposure Therapy (NET) a short-term treatment for post-traumatic stress disorder can be applied in low and middle income, in post conflict settings (Neuner, Schauer, & Elbert, 2014).

This study used NET to treat PTSD and depression among bereaved adolescents. Narrative Exposure Therapy is an evidence-based treatment for Trauma Spectrum Disorders (TSD) in adult and child survivors of multiple stressors with complex trauma histories (Schauer, Neuner, & Elbert, 2011). Narrative Exposure Therapy model is not meant to be a long-term therapy, but rather a quick and effective short term therapy (Kangaslampi, Garoff, & Peltonen, 2015). Narrative Exposure Therapy was originally developed to treat survivors of war, terror, torture, and abuse. It uses different techniques including talk and exposure (Forman-Hoffman, et al., 2013).

Talk therapy deals with cognitions and involves talking about traumatic experience and exposure to the reminding cues (Lim, 2013). This method helps the patient process painful emotions by telling their stories. The patients are asked to narrate when, what, where. What you were doing when it happened, in a safe environment until it no longer elicits anxiety (Perm, 2013).

According to NET model, when you have PTSD, your hot memories are triggered without any references to the cold memories. Cold memories are the facts of the trauma like place, date, time of the day, and people that were there. Hot memories on the other hand, are the ones stored in your fear network: the sensory details, emotions, and physiological reactions to the trauma. By making a chronological autobiography, you link the hot memories to the hard facts and contextualize the trauma. You revisit the traumatic event in a safe environment, this time from the perspective of your entire life, instead of reliving it as a reaction to stress in the present (Schaal, Elbert, & Neuner, 2009).

Narrative Exposure Therapy involves construction of a detailed chronological narrative of one's biography. Over the course of four treatment sessions, the patients are asked to recall his or her life and include details of the traumatic events he/she has experienced. Frequently, the narrative initially includes fragmented reports of the traumatic experience. It is the job of the therapist and the patient to create a coherent narrative out of the reports. The process of construction also includes discussions to investigate current and past emotional, physiological, cognitive and behavioral reactions to narrative. The narrative is corrected during the course of treatment through multiple readings. As more details emerge of the event the therapist helps the client to make sense of the experience (Schauer, Narrative Exposure Therapy, 2015).

A pilot randomized controlled trial with Rwandan Genocide orphans compared NET with Interpersonal Psychotherapy and after six months follow up, only 25% of the patients treated with NET had symptoms while 71% of IP patients still fulfilled PTSD and depression criteria (Schaal, Elbert, & Neuner, 2009). The study concluded that individual NET in combination with group-based mourning process comprises an effective treatment. Another study found that Narrative Exposure Therapy was effective for traumatized survivors who have to bear the loss of loved ones and have been suffering from symptoms of PTSD and depression (Schaal, Elbert, & Neuner, 2009).

### **Understanding Narrative Exposure Therapy**

Therapeutic elements of NET that have proven effective in trauma treatments involve many stages. The procedure for NET is the same for both individual and group (Adenauer, et al., 2011).

Stage 1 the first session involves psycho-education before the patients start with narration. The sessions develop by use a rope as a symbol of life and stones as symbols for bad events in the narratives. It begins by construction of a life line that describes one's life. The patient constructs a narrative of his or her whole life, from birth to the present, while focusing on the detailed report of the traumatic event. The life experiences are represented by stones and flowers. The stones represent shameful, difficult, and especially traumatic memories, while the flowers represent good memories.

Stage 2 is imaginal exposure to the traumatic events (hot spots) and full activation of fear memory in order to modify the emotional network. According to Foa, Hembree & Rothbaum (2007), imaginal exposure will entail prolonged and repeated trauma memory processing. The therapist guides the client by asking him to revisit the trauma narrative in detail.

Stage 3 involves a meaningful linkage and integration. It links the physiology, sensory, cognitive, and emotional responses to one's time, space, and life context

(comprehension of the original context of acquisition and the re-emergence of conditioned responses in later life). The therapist will help the client make a link between their negative emotions, the thoughts and beliefs and how they are linked to the traumatic experience.

Stage 4 focuses on cognitive re-evaluation of behavior and patterns (i.e., cognitive and distortions, automatic thoughts, beliefs, and responses) as well as reinterpretation of the meaning content through reprocessing of negative, fearful, and traumatic events –completion and closure. In narrative therapy, the therapist's role is to support the client and significant others to create the new or 'preferred' story.

Stage 5 is revisiting of positive life-experiences to activate resources and to adjust basic assumptions.

Stage 6 aims at regaining of the survivor's dignity through satisfaction of the need for acknowledgment through the explicit human rights orientation of 'testifying'

The practical elements of NET can be divided into four parts: The first part is the diagnostic interview and psycho-education of the clients. The therapist is expected to discuss the brain model with the client. This entails discussing the hot and cold memories of the related to the traumatic event. The therapist also discusses the fear model and the plan for therapy.

The plan for therapy includes the lifeline, narration and testimony. The therapist also discusses with the client the dangers or problems of the client using avoidance to cope with the emotions related to the traumatic event. The therapist encourages the client to be open. The therapist then gets informed consent or assent from the client.

The second part of the practical element of NET involves the therapist helping the client to lay out the lifeline. This is optional as there is evidence showing that NET can be effective with or without the lifeline in the treatment. This is a highly individual procedure which requires the client to remember specific information about the trauma memory. It entails the client laying out a rope with one end of the rope representing the time they were born and the rest representing the life yet to come since birth. The therapist will discuss with the client the meaning of flowers and stones which could represent praise or shame respectively. The therapist will then support the client to place the flowers and stones on the lifeline depending on their experiences. The therapist will take note of the order of events together with brief descriptions of the events.

*Figure 1* indicates an example of a lifeline. A lifeline represents a respondent's experience from the time of birth to the present. The stones represent traumatic experiences while the flowers the good times.

The third practical element of NET entails NET therapy sessions. The therapist will pay special attention to the stones which are believed to have caused the symptoms of PTSD and its comorbidity depression. The therapist should spend most of the sessions getting detailed descriptions of the biography of the client especially the events of on the lifeline represented with stones. Before beginning any session, the therapist should read to the client the narrative from the previous session as he seeks to try to connect the hot and cold memories of the trauma. The therapist should use his questioning skills to clarify information from the client.

The final part of the practical element entails the therapist rereading the narrative by promoting engagement of the trauma material. The therapist should not avoid any traumatic experience. The client and therapist should then sign the narrative and then discuss the hopes for the future. The therapist then assists the client to lay out the final life which will include the positive, negative, neutral and traumatic events in the client's life. The sessions will end with the client placing flowers on the lifeline. The flowers represent the future wishes of the client as well as the hopes for the future.

Narrative Exposure Therapy is the intervention of choice for various reasons. It has been found to have no side effects with comparative low rates of drop out of patients (Adenauer, et al., 2011). It reduces significant symptoms of PTSD even in stressful living conditions. In a study carried out by the University of Konstanz, Germany among refugee children living in exile, it was found effective for children between ages 7 and 16 (Ruf, et al., 2010). Narrative Exposure Therapy can be carried out by trained lay therapists and can apply use of low level language (Neuner, Schauer, & Elbert, 2014). It can therefore be beneficial to the developing communities.

To heal individuals and communities NET was tested and found ecologically valid in various real-world settings. It was tested in scenarios of conflict and crisis as well as in typical inpatient and outpatient clinical settings (Neuner et al., 2011; Hensel-Dittmann, et al., 2011; Crombach & Elbert, 2014; Pabst, Schauer, Bemhardt, Ruf-Leuschner, & Goder, 2014).



**Figure 1. Example of a Lifeline.**

NET was found to be a robust, low-threshold approach that is not linked to formal education, culture, or age (Pabst, Schauer, Bemhardt, Ruf-Leuschner, & Goder, 2014). It can be successfully built into large-scale service provision and applied by trained counselors, psychologists and psychiatrists, medics, paramedics, social workers, and teachers (Jacob, Neuner, Maedl, Schaal, & Elbert, 2014)..

The effectiveness of NET was also highlighted by Kangaslampi, Garoff, and Peltonen, (2015) who conducted a study among 80 children between ages 9-17 years and found that NET was effective for immigrant children repeatedly traumatized by war. All the factors given in the cited relevant literature do not have a relationship with bereaved adolescent's experiences, especially those living in the children's home, hence the need for this study.

A study conducted among 61 female adolescents with sexual assault in Philadelphia found that participants who received prolonged exposure therapy had reduction in PTSD symptoms which also led to reduction in depression symptoms (48.7%, 95% CI [30.2, 67.2]) and not vice versa (McLean, Su, Carpenter & Foa, 2017). Similarly, a study conducted among 73 adolescents and children at Schneider Children's medical center in Israel found that reduction in PTSD symptoms led to changes in depressive symptoms. Further, Reduction in PTSD symptoms accounted for 64.1% of reduction in depressive symptoms while only 11.0% of depression symptoms accounted for changes in PTSD symptoms (Aderka, Foa, Applebaum, Shafran & Gilboa-Schechtman, 2011). This indicated that treatments targeting reduction of PTSD symptoms would also lead to reduction of depression symptoms.

A study conducted in Lebanon, Jordan, Egypt and Palestine between 2013 and 2016 found that NET was effective in reducing PTSD symptoms from 3.20 to 1.80 and depression symptoms from 2.75 to 1.96(Kangaslampi, Garoff, & Peltonen, 2015 and Hansen, Hansen-Nord, Smeir, Engelkes-Heby & Modvig, n.d.). Further, women had greater symptom reduction than men. Another study conducted in Uganda among six refugee children from Somali aged 12-17 years and presenting with symptoms of PTSD found that KIDNET was effective in reducing PTSD symptoms after treatment and after 9 months follow up. Further, the children reported to have improved functioning (Onyut, et. al., 2005).

## Methods

### Sample

The study was conducted in 8 children's homes in Kajiado County, Kenya. The study enrolled 160 boys and girls aged 12-18 years with a mean age of 14.27 (SD  $\pm$ 1.79). The respondents were also bereaved and living in the children's home. Another inclusion criterion was to have PTSD symptoms hence 6 respondents did not meet the inclusion criteria. Respondents who met the inclusion criteria were 154. Necessary approvals were sought and provided. Adolescents aged below 18 years provided assent to participate in the study while those aged 18 years provided informed consent prior to participating in the study.

### Procedure and Methods

The researcher used trained research assistant to help administer the socio demographic Questionnaire and UCLA Post Traumatic Stress Disorder (PTSD) Reaction Index. UCLA PTSD Reaction Index has been translated into English and Kiswahili. This made it easier for the adolescents to answer the questions as they answered in the language they were most comfortable with.

## Socio Demographic Information

The socio demographic questionnaire was pretested at a children's Home in Kajiado County, Kenya. The home was not part of the study. Necessary corrections were made to the socio demographic questionnaire to make it easy to understand for the adolescents. The tool gathered information on age, gender, religion, level of education, and family background. The tool also asked about the respondents perceived academic performance, family of residence prior to going to live in the children's home, the kind of family set up the adolescent lived in prior to going to live in the home. Finally, it also asked about the family of origin economic status, how many friends the adolescent had and how often they missed school.

### UCLA PTSD Reaction Index

UCLA PTSD Reaction Index is a standardized psychological testing instrument. It is a paper and pencil test that identifies both exposure to traumatic experiences and PTSD symptoms among children and adolescents [18]. The new DSM-5 version of UCLA PTSD Reaction index for DSM-IV (Adolescence Version) is a semi structured interview tool that assesses trauma history and the full range of DSM-5 PTSD diagnostic criteria among school-aged children and adolescents [19]. UCLA PTSD Reaction Index was used to find out the types of trauma adolescents had experienced and the presence of symptoms of PTSD. Cut off points for symptoms of PTSD was mild symptoms of PTSD and above ( $\geq$ 20).

The reliability of UCLA PTSD Reactive index was tested in Nigeria with two samples. In both samples it was found to be adequate with .88 and .89 reliability which was considered excellent [20]. In the same test the validity showed a positive correlation with PTSD. The relationship provided a strong construct validity evidence for UCLA PTSD Reaction Index [20]. The UCLA PTSD Reaction Index has been translated into the national language Kiswahili.

### Data Analysis

Data analysis was done using Statistical Package of Social Sciences (SPSS) software version 20. Frequencies and percentages of traumatic events experienced by adolescents were calculated to establish how many adolescents had experienced traumatic events. Further, identify the types of traumatic events that bereaved adolescents had experienced.

## Results

The study had 154 respondents who gave informed consent or assent and met the inclusion criteria.

Table 1 presents the PTSD mean scores of respondents in the experimental group and control group at base-line, mid-line and end-line. PTSD mean scores reduced among respondents treated with NET from base-line 3.1923  $\pm$  (SD: .55963) to mid-line 2.2308  $\pm$  (SD: .50768) and from mid-line to end-line 1.4359  $\pm$  (SD: .49908). Krusal-Willis ranks test showed reduced mean at base-line from 85.77 to 56.00 at mid-line and 42.277 at end-line. The reduction was statistically significant at  $p=0.0001$ . However, slight reduction was also noticed in the control group mean at base-line 2.9342 (SD $\pm$ .54980SD) to mid-line 2.8947 (SD $\pm$ .53114) and at end-line 2.8816 (SD  $\pm$ .51555). The mean rank in control group augmented in ranks which imply that the reduction in means was insignificant in the control group.

The study sought to determine whether the difference in PTSD means was statistically different at base-line, mid-line and end-line.

**Table 1. PTSD Means Scores of Respondents in the Experimental Group.**

Time Group	N	Mean	SD.	Mean	$\chi^2$	df	Sig.
Base-line							
Experimental	78	3.1923	.55963	85.77	7.961	1	.005
Control	76	2.9342	.54980	69.01			
Mid-line							
Experimental	78	2.2308	.50768	56.00	46.230	1	.000
Control	76	2.8947	.53114	99.57			
End-line							
Experimental	78	1.4359	.49908	42.77	106.624	1	.000
Control	76	2.8816	.51555	113.14			

**Table 2. Independent Sample – T Test of Equality of Variance and PTSD Means.**

PTSD Time	Levene's Test for Equality of Variance		t-test for equality of Means					
	F	Sig.	df	Sig.	Mean diff	Std.err	95% CI	
							Lower	Upper
Base-line	2.091	.150	152	.004	.25810	.08942	.08143	.43477
			151.989		.25810	.08940	.08147	.43473
Mid-line	1.210	.275	152	.000	-.66397	.08371	-.82936	-.49857
			151.232		-.66397	.08376	-.82947	-.49847
End-line	10.952	.001	152	.000	-1.44568	.08176	-1.60722	-1.28415
			151.480		-1.44568	.08180	-1.60729	-1.28407

Table 2 presents independent sample t test statistics showing the analysis of equality of variance and equality of mean. Levene's test shows there was statistically significant difference in equality of variance on PTSD at base-line mean scores among the two groups ( $p=0.004$ ). This was because the experimental group had a higher mean score than the control group at base-line.

At mid-line, the difference was also significant at  $p<.001$  with the experimental group having a lower mean than the control group. This means that the experimental group mean which was higher at base-line was now lower than that of the control group. At end-line, the PTSD mean score for the experimental group was also statistically significantly different from the control group at  $p<.001$ . This showed that NET was effective in reducing the symptoms of PTSD among adolescents in the experimental group. Further, the t test for equality of mean showed significant difference from base-line to end-line ( $p= 0.0001$ ) and there was a significant difference in mean scores of PTSD between NET and control group. This indicated that NET had a statistically significant effect in reducing PTSD symptoms among bereaved adolescents.

Respondents Screened for PTSD from Base-line to End-line

**Table 3. Frequency of Respondents Screened for PTSD from Base-line to End-line.**

Time	Experimental		Control		Pearson's chi-square		
	$\leq 19$	$\geq 20$	$\leq 19$	$\geq 20$			
Base-line		78 (50.6%)		76 (49.4%)	-	-	-
Mid-line	3 (1.9%)	75 (48.7%)	0 (0.0%)	76 (49.4%)	2.981	1	.084
End-line	44 (28.6%)	34 (22.1%)	0 (0.0%)	76 (49.4%)	60.02	1	.000

Table 3 indicates the frequency of respondents who had been screened for PTSD at base-line, mid-line and end-line. The cutoff point was 19 and below and 20 and above in the experimental and control groups. At base-line, all respondents in the experimental group had symptoms of PTSD equal to and greater than 20. PTSD was an inclusion criterion therefore all respondents who participated in the study met

the inclusion criteria. Similarly, all respondents in the control group also presented with symptoms of PTSD at base-line.

At mid-line assessment which was after NET intervention, 3 respondents did not meet the criteria for diagnosis of PTSD as their symptoms scores were below 19. However, all respondents in the control group still had symptoms of PTSD greater than 20. This showed that NET intervention was effective as 3(1.9%) respondents in the experimental group at mid-line no longer met the criteria for diagnosis of symptoms of PTSD.

At end-line, 44 (28.6%) of respondents in the experimental group had a reduction of PTSD symptoms to below 19 which meant they did not meet the criteria for diagnosis of symptoms of PTSD. In the control group where no intervention was provided, all respondents still met the criteria for diagnosis of symptoms of PTSD. These findings further showed that NET was effective in the treatment of PTSD among bereaved adolescents living in children's homes in Kajiado County, Kenya.

The study sought to identify the reduction of depression mean scores as per socio demographic characteristics

Table 4 presents the mean reduction of depression scores from base-line, mid-line and end-line among respondents. Respondents aged 12-14 years had a depression mean score reduction of 0.348 at mid-line while those aged 15-18 years had a mean reduction of 0.288. At end-line, respondents aged 15-18 years had a depression mean reduction of 0.627 while those aged 12-14 years had a mean reduction of 0.568. These findings indicated that younger respondents had a greater reduction in mean scores at mid-line but at end-line the older respondents showed greater depression mean reduction.

According to gender, males had a depression mean reduction of 0.359 at mid-line while females had a mean reduction of 0.313. At end-line, females had greater depression mean reduction of 0.626 while males had a reduction of 0.487. This indicated that males had greater symptom reduction at mid-line but females had greater symptom reduction at end-line.

At mid-line, respondents with exemplary academic performance had a depression mean reduction of 0.667 followed by those who performed above average at 0.464, excellent at 0.445, average at 0.35, below average at 0.143

while those who performed poorly had a mean reduction of 0.100. At end-line, respondents whose academic performance was exemplary had a depression mean reduction of 1.00 followed by those who performed above average at 0.927, excellent academic performance at 0.778, below average performance at 0.314 while those who performed poorly had a mean reduction of 0.3000. These findings indicated that respondents with affluent, exemplary and above average academic performance had the greatest symptoms reduction at base-line, mid-line and end-line as compared to those who performed below average and poorly.

**Table 4. Depression Mean Reduction at Base-line, Mid-line and End-line.**

Variable	Depression at Base-line	Mean Reduction at Mid-line	Mean Reduction at End-line
Age			
12-14	2.8421(.78977)	0.347	0.568
15-18	2.7458 (.68464)	0.288	0.627
Gender			
Male	2.9744 (.66835)	0.359	0.487
Female	2.7478 (.77055)	0.313	0.626
Academic Performance			
Poor	2.6000 (.69921)	0.100	0.200
Below Average	2.8000 (.67737)	0.143	0.314
Average	2.8333 (.78474)	0.350	0.583
Above Average	2.7500 (.79931)	0.464	0.929
Excellent	2.8889 (.75840)	0.445	0.778
Exemplary	3.0000 (1.0000)	0.667	1.000
Family Residence			
Urban	2.8810 (.70546)	0.381	0.976
Rural	2.6863 (.90532)	0.373	0.510
Semi Urban	2.8525 (.62812)	0.246	0.394
Family Set-Up			
Lived with parents	2.2308 (.92681)	0.154	0.308
Parents Separated	2.9750 (.73336)	0.425	0.725
Lived with Guardian	2.8119 (.70303)	0.307	0.574
Economic Status			
Poor	2.7458 (.73328)	0.254	0.390
Below Average	2.8372 (.72145)	0.302	0.628
Average	3.0250 (.69752)	0.450	0.925
Above Average	2.4286 (.97590)	0.572	0.286
Affluent	2.0000 (.70711)	0.000	0.400

Respondents who stayed in an urban residence before moving to stay at the homes had a depression mean reduction of 0.381 at mid-line followed by those who lived in a rural residence at 0.373 while those who lived in a semi-urban environment had a mean reduction of 0.307. At end-line, respondents who lived in an urban setting had a depression mean reduction of 0.976 followed by respondents who lived in a rural residence at 0.510 while those who lived in a semi-urban residence had a mean reduction of 0.394. These findings indicated that respondents who previously lived in an urban residence had the greatest symptom reduction at mid-line and end-line followed by those who lived in a rural setting while those who lived in a semi-urban residence had the least depression symptom reduction.

Respondents who lived with parents who were separated before moving to live in the homes had a depression mean reduction of 0.425 at mid-line followed by respondents who had lived with guardians at 0.307 while those who had lived with both parents had a mean reduction of 0.307. At end-line, respondents who had lived with parents who were separated had a mean reduction of 0.725 followed by respondents who had lived with guardians at 0.574 while those who had lived with both parents before bereavement had a symptom

reduction of 0.308. These findings indicated that respondents who had lived with separated parents had the greatest depression symptom reduction at mid-line and end-line followed by those who had lived with guardian. Respondents who had lived with both parents had the least symptom reduction both at mid-line and end-line.

Respondents who came from families of above average economic status had a depression mean reduction of 0.522 at mid-line followed by those from average economic status at 0.45, below average economic status at 0.302, poor economic status at 0.254 while those from affluent economic status did not have any symptom reduction. At end-line, respondents from average economic status had a depression mean reduction of 0.925 followed by those from below average economic status at 0.628, affluent at 0.400, below average economic status at 0.340 while those from above average economic status had a mean reduction of 0.286. These findings indicated that respondents who came from above average economic status had the greatest symptom reduction at mid-line while those from average economic status had the greatest symptom reduction at end-line.

### Discussion

This study sought to determine the efficacy of NET in reducing symptoms of PTSD and depression among bereaved adolescents living in selected children's homes. The study found that NET was effective in reducing symptoms of PTSD seen in reduced mean scores among respondents treated with NET from base-line  $3.1923 \pm (SD: .55963)$  to mid-line  $2.2308 \pm (SD: .50768)$  and from mid-line to end-line  $1.4359 \pm (SD: .49908)$ . The reduction was statistically significant at  $p=0.0001$ .

Analysis was done to establish the depression mean scores of respondents in the experimental and control groups at base-line, mid-line and end-line. In the experimental group, the depression mean score at base-line was 3.039 (SD  $\pm .7635$ ), at mid-line it was 2.398 (SD  $\pm .7445$ ) and at end-line it was 1.231 (SD  $\pm .5077$ ). This indicated that the depression mean scores of respondents in the experimental group reduced from base-line to mid-line and end-line. Chi square test indicated that the reduction was statistically significant at  $p=0.0001$ .

The findings concur with earlier research that found NET to be effective in treating PTSD among adult and child survivors of multiple stressors with complex trauma histories (Schauer, Neuner, & Elbert, 2011). Similarly, Net was also found to be effective in a pilot randomized controlled study of Rwandan Genocide orphans which compared NET with Interpersonal Psychotherapy and after six months follow up, only 25% of the patients treated with NET had symptoms while 71% of IP patients still fulfilled PTSD and depression criteria (Schaal, Elbert, & Neuner, 2009).

According to gender, males had a depression mean reduction of 0.359 at mid-line while females had a mean reduction of 0.313. At end-line, females had greater depression mean reduction of 0.626 while males had a reduction of 0.487. This indicated that males had greater symptom reduction at mid-line but females had greater symptom reduction at end-line.

### Conclusion

The study established that NET was effective in reducing symptoms of PTSD among bereaved adolescents living in selected children's homes. Further, it was also found to be effective in reducing symptoms of depression which tends to be comorbid with PTSD.

### Ethics

The study was approved by the National Council for Science and Technology (NACOSTI), Daystar University, daystar University Ethics and review Board, Children's Department, and the Directors of the 8 Children's Homes where the study was conducted. Adolescents below 18 years provided assent while those aged 18 years provided informed consent.

### Limitations

This study was limited in the sense that the research focused on adolescents who are aged between 12- 18 years. Even though the findings confirmed that NET was effective in treating PTSD among bereaved adolescents, it is not known whether the same treatment would work for children below 12 years. Considering that the study only targeted bereaved adolescents who were living in children's homes. This study could not draw a comparison between levels of PTSD among those in institutionalized care in comparison to those who are living under the care of relatives or with their parents.

### Conflict of Interest

The authors declare that they have no conflict of interest

### Works Cited

Atwoli, L., Ayuku, D., Hogan, J., Koech, ..., Vreeman, R., Ayaya, S., et al. (2014). Impact of domestic care environment on trauma and posttraumatic stress disorder among orphans in western Kenya. *Plos one*, 9(3), e89937.

Casey, B., Jones, R., Levita, V., Patwell, S., & Rubberry, E. S. (2010). The storm and Stress in adolescence: Insights from Human Imaging and Mouse Genetics. *Developmental Psychology*, 52(3), 225-235.

Chan, M. (2010). *Mental health and deelopment: targeting people with mental conditions as a vulnerable group*. World Health Organization.

Forman-Hoffman, V., Zolotor, A., McKeeman, J., Blanco, R., Knauer, S., Llord, S., et al. (2013). Comparative effectiveness of interventions for children exposed to nonrelational traumatic events. *Pediatrics*, peds-2012.

Jacob, N., Neuner, F., Maedl, A., Schaal, S., & Elbert, T. (2014). Dissemination of psychotherapy for trauma spectrum disorders in postconflict setting: a randomized controlled trial in Rwanda. *Psychotherapy and psychosomatics*, 83(6), 354-363.

Jameson, W. (2003). *Reaching Out: Interpersonal Effectiveness and Self Actualization*. New York: Pearson.

Jana, G., Franziska, S., Simone, M., Ulrich, S., Rita, R., & Regina, S. (2015). Therapeutic adherence and competence scales for developmentally adaptive cognitive processing therapy for adolescents with PTSD. *European Journal of Psychotraumatology*.

Kangaslampi, S., Garoff, F., & Peltonen, K. (2015). Narrative exposure therapy for immigrant. *BMC Psychiatry*, 15-125.

Karadag, C., & Ozcebe, H. (2011). Adolescents living in orphanages in Ankara: Psychological symptoms, level of physical activity, and associated factors. *Turk Psikiyatri Dergisi*, 22(2), 93-103.

Kersburg, S. E. (2012). Victimization and PTSD in rural Kenyan youth sample. *Critical practice and epidemiology in mental health*.

Khasakhala, I.L., Ndeti, M., Mathai, M., & Harder, V. (2013). Major depressive disorder in a Kenya youth sample: relationship with parenting behavior and parental psychiatric disorders. *Annals of General Psychiatry*, 12-15.

Khasakhala, L. M. (2012). The prevalence of depressive symptoms among adolescents in Nairobi public secondary

schools: association of perceived maladaptive parental behavior. *African journal of psychiatry*, 15(2), 106-113.

Kim, M. (2014). Prevalence of depression and validation of Beck Depression Inventory-II and the Children's Depression Inventory-short amongst HIV-positive adolescents in Malawi. *Journal of the International AIDS Society*, 17(1).

Kothari, C. (2013). *Research Methodology: Methods and Techniques*. New Delhi: New Age International.

Kothari, C. (2013). *Research Methodology: Methods and Techniques* (Second Revised Edition ed.). New Delhi: New Age International Publishers.

Kumpfer, K. (2014). Family Based Interventions for the Prevention of Abuse. *Creative Commons Attribution License*.

Leenarts, L., Diehle, J., Doreleijers, T., Jansma, E., & Lindauer, R. (2013). Evidence-based treatments for children with trauma-related psychopathology as a result of childhood maltreatment: a systematic review. *European child & adolescent psychiatry*, 22(5), 269-283.

Mundt, A. & (2014). Evaluating interventions for posttraumatic stress disorder in low and middle income countries: Narrative Exposure Therapy. *Intervention*, 12(2), 267-297.

Muriungi, S., & Ndeti, D. (2013). Effectiveness of psycho-education on depression, hopelessness, suicidality, anxiety and substance use among basic diploma students at Kenya Medical Training College. *South African Journal of Psychology*, 19(2), 41-50.

Nyamukapa, C. (2010). Causes and consequences of psychological distress among orphans in eastern Zimbabwe. *AIDS Care*, 988-996.

Obwatho, S. (2014). *Academic Research Writing: The logical sequence*. Nairobi-Kenya: Starbright Services Limited.

Perm, J. (2013). Meta-Analysis of the use of Narrative Exposure Therapy for the effects of Trauma Among Refugee Populations. *Permanente Journal*, 17(1), 70-76.

Schaal, S., Elbert, T., & Neuner, F. (2009). Narrative exposure therapy versus interpersonal psychotherapy. *Psychotherapy and psychosomatics*, 78(5), 298-306.

Schauer, M. (2015). Narrative Exposure Therapy. In J. Wright, *International Encyclopedia of the Social & Behavioral Sciences* (2nd ed., Vol. 16, pp. 198-203). Oxford: Elsevier.

Schauer, M., Neuner, F., & Elbert, T. (2011). Narrative Exposure Therapy: A short-term treatment for traumatic stress disorders. Hogrefe Publishing.

Schauer, M., Neuner, F., & Elbert, T. (2011). *Narrative exposure therapy: A short-term treatment for traumatic stress disorders*. (2nd ed.). Cambridge, MA: Hogrefe Publishing.

Smith, P. (2013). Treatment of PostTraumatic Stress Disorder in Children and Adolescents. *Current Opinion in Psychiatry*, 26(1), 66-72.

Steinberg, A., Brymer, M., Kim, S. E., Ippen, C., Ostrowski, S., & Pynoos, R. (2013). Psychometric properties of the UCLA PTSD reaction index: Part I. *Journal of traumatic stress*, 26(1), 1-9.

Atwoli, L., Ayuku, D., Hogan, J., Koech, ..., Vreeman, R., Ayaya, S., et al. (2014). Impact of domestic care environment on trauma and posttraumatic stress disorder among orphans in western Kenya. *Plos one*, 9(3), e89937.

Casey, B., Jones, R., Levita, V., Patwell, S., & Rubberry, E. S. (2010). The storm and Stress in adolescence: Insights from Human Imaging and Mouse Genetics. *Developmental Psychology*, 52(3), 225-235.

- Chan, M. (2010). *Mental health and deevlopment: targeting people with mental conditions as a vulnerable group*. World Health Organization.
- Forman-Hoffman, V., Zolotor, A., McKeeman, J., Blanco, R., Knauer, S., Llord, S., et al. (2013). Comparative effectiveness of interventions for children exposed to nonrelational traumatic events. *Pediatrics,peds-2012*.
- Jacob, N., Neuner, F., Maedl, A., Schaal, S., & Elbert, T. (2014). Dissemination of psychotherapy for trauma spectrum disorders in postconflict setting:a randomized controlled trial in Rwanda. *Psychotherapy and psychosomatics*, 83(6), 354-363.
- Jameson, W. (2003). *Reaching Out:Interpersonal Effectiveness and Self Actualization*. New York: Pearson.
- Jana, G., Franziska, S., Simone, M., Ulrich, S., Rita, R., & Regina, S. (2015). Therapeutic adherence and competence scales for developmentally adaptive cognitive processing therapy for adolescents with PTSD. *European Journal of Psychotraumatology*.
- Kangaslampi, S., Garoff, F., & Peltonen, K. (2015). Narrative exposure therapy for immigrant. *BMC Psychiatry*, 15-125.
- Karadag, C., & Ozcebe, H. (2011). Adolescents living in orphanages in Ankara:Psychological symptoms,level of physical activity,and associated factors. *Turk Psikiyatri Dergisi*, 22(2), 93-103.
- Kersburg, S. E. (2012). Victimization and PTSD in rural Kenyan youth sample. *Critical practice and and epidemiology in mental health*.
- Khasakhala, I. L., Ndetei, M., Mathai, M., & Harder, V. (2013). Major depressive disorder in a Kenya youth sample:relationship with parenting behavior and parental psychiatric disorders. *Annals of General Psychiatry*, 12-15.
- Khasakhala, L. M. (2012). The prevalence of depressive symptoms among adolescents in Nairobi public secondary schools: association of perceived maladaptive parental behavior. *African journal of psychiatry*, 15(2), 106-113.
- Kim, M. (2014). Prevalence of depression and validation of Beck Depression Inventory-II and the Childrens Depression Inventory-short amongst HIV-positive adolescents in Malawi. *Journal of the International AIDS Society.*, 17(1).
- Kothari, C. (2013). *Research Methodology: Methods and Techniques*. New Delhi: New Age International.
- Kothari, C. (2013). *Research Methodology: Methods and Techniques* (Second Revised Edition ed.). New Delhi: New Age International Publishers.
- Kumpfer, K. (2014). Family Based Interventions for the Prevention of Abuse. *Creative Commons Attributes License*.
- Leenarts, L., Diehle, J., Doreleijers, T., Jansma, E., & Lindauer, R. (2013). Evidence-baesd treatments for children withtrauma-related psychopathology as aresult of childhood maltreatment: a systematic review. *European child & adolescent psychiatry*, 22(5), 269-283.
- Mundt, A. &. (2014). Evaluating interventions for posttraumatic stress disorder in low and middle income countries: Narrative Exposure Therapy. *Intervention*, 12(2), 267-297.
- Muriungi, S., & Ndetei, D. (2013). Effectiveness of psycho-education on depression, hopelessness, suicidality, anxiety and substance use among basic diploma students at Kenya Medical Training College. *South African Journal of Psychology*, 19(2), 41-50.
- Nyamukapa, C. (2010). Causes and consequences of psychological distress among orphans in eastern Zimbabwe. *AIDS Care*, 988-996.
- Obwatho, S. (2014). *Academic Research Writing: The logical sequence*. Nairobi-Kenya: Starbright Services Limited.
- Perm, J. (2013). Meta-Analysis of the use of Narrative Exposure Therapy for the effects of Trauma Among Refugee Populations. *Permanente Journal*, 17(1), 70-76.
- Schaal, S., Elbert, T., & Neuner, F. (2009). Narrative exposure therapy versus interpersonal psychotherapy. *Psychotherapy and psychosomatics*, 78(5), 298-306.
- Schauer, M. (2015). Narrative Exposure Therapy. In J. Wright, *International Encyclopedia of the Social & Behavioral Sciences* (2nd ed., Vol. 16, pp. 198-203). Oxford: Elsevier.
- Schauer, M., Neuner, F., & Elbert, T. (2011). Narrative Exposure Therapy: A short-term treatment for traumatic stress disorders. Hogrefe Publishing.
- Schauer, M., Neuner, F., & Elbert, T. (2011). *Narrative exposure therapy: A short-term treatment for traumatic stress disorders*. (2nd ed.). Cambridge, MA: Hogrefe Publishing.
- Smith, P. (2013). Treatment of Post Traumatic Stress Disorder in Children and Adolescents. *Current Opinion in Psychiatry*, 26(1), 66-72.
- Steinberg, A., Brymer, M., Kim, S. E., Ippen, C., Ostrowski, S., & Pynoos, R. (2013). Psychometric properties of the UCLA PTSD reaction index: Part I. *Journal of traumatic stress*, 26(1), 1-9.
- Steinburg, A., Brymer, M., Decker, K., & Pynoss, R. (2014). UCLA PTSD reaction index. *Current Psychiatry Reports*, 6, 96-100.
- Thwala, S. (2013). The role of culture in psychosocial development of orphans and vulnerable children. *International Journal of Adolescents and Youth*, 18(2), 105-121.
- Watt, F. (2015). *Healing after parent loss in childhood and adolescence:therapeutic interventions and theoretical considerations*.
- WHO. (2015). *The Mental Health of Children and Adloescents: Report on the Second Australian Child and Adolescents Survey of Mental Health of Wellbeing*. Geneva: WHO.
- Whyte, A., & Tedds, J. (2011). *Making case for research data management*. Edinburg: Edinburg digit curation center.
- Wittman, L., & Nijdam, J.(2015). Psychological and Social Theories of PTSD. *Evidence Based Treatments for Trauma*, 41-61.