



THE PREVALENCE OF POST-TRAUMATIC STRESS DISORDER (PTSD) AMONG INTERNALLY DISPLACED PERSONS (IDPS) IN MAAI MAHIU CAMP IN NAKURU COUNTY, KENYA

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Abstract

Over recent decades, studies have shown that trauma is an etiological agent in the genesis of psychopathology. A significant number of those who are exposed to potentially traumatic events, such as conflict and violence, may develop PTSD and other mental health or behavioral conditions. In 2007/8, Kenya was in the grip of post-election violence (PEV). This was an environment in which many were exposed to overwhelming and distressing experiences, and from which survivors were left feeling frustrated and powerless. This study adopts a posttest, quasi-experimental research design for the purpose of determining the prevalence of PTSD and associated socio-demographic factors among IDPs following PEV. A sample of 139 respondents was obtained through a purposive sampling technique. Socio-demographic and Severity of Posttraumatic Stress Symptoms-Adult *National Stressful Events Survey PTSD Short Scale (NSESSS) questionnaires were completed, and ethical standards observed. Analysis was conducted using SPSS, utilizing descriptive, bivariate and multivariate statistical tests. The findings indicate that there is a negative impact of PEV on survivors, resulting in a PTSD prevalence rate of 62.1%. The findings call for governments to adequately plan for and programme mental health interventions for IDPs.*

Keywords: Internally displaced persons, post-election violence, post-traumatic stress disorder, survivors, conflict, trauma, violence

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The Prevalence of Post-Traumatic Stress Disorder (PTSD) among Internally Displaced Persons (IDPs) in Maai Mahiu Camp in Nakuru County, Kenya

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Introduction

It is well known that around the world conflict and violence lead to the displacement of millions of people. In 2015, Siriwardhana et al. estimated a total of 28 million internally displaced persons (IDPs) globally. In Kenya, the 2007/8 post-election violence (PEV) resulted in mass displacement. Those who were displaced in the Rift Valley region underwent forceful evictions and endured deplorable living conditions in IDP camps (Kenya Human Rights Commission, 2011). The 2007/8 PEV inflicted heavy psycho-social and economic burdens on survivors. These included despair, anxiety, fear, confusion, death, displacement, sudden destitution and the breakup of their families (Lukoye, 2010). This devastating experience exposed survivors to severely traumatic events, and propagated fear and distress among affected communities. Survivors may have initially presented with shock, panic and disbelief. They would have therefore developed enduring attitudes and assumptions, or schemas. Cognitive strategies and behaviors, such as thought suppression, rumination, safety-seeking behaviors and avoidance, may have prevented change in their appraisals and increased the possibility of the development of symptoms of post-traumatic stress disorder (PTSD).

The onset of PTSD is a common adverse reaction to severe trauma and may persist for many years after initial exposure (Lecic-Tosevski, Pejuskovic, Miladinovic, Toskovic, & Priebe, 2013). Symptoms associated with PTSD include intrusive memories, avoidance of trauma reminders, numbness, hyper-arousal, and distorted or negative thoughts about oneself (American Psychiatric Association (APA), 2013). In addition, PTSD, if left untreated, may often complicate other adverse mental health outcomes, presenting as comorbid depression, anxiety and substance abuse disorders (APA, 2013; Bisson, 2007; Hruskal & Delahanty, 2012; McCauley et al., 2012). In a recent meta-analysis, 52% of people with current PTSD presented with comorbid major depressive disorder (MDD) (Rytwinski, Scur, Feeny, & Youngstrom, 2013). It is clear therefore that the assessment and treatment of PTSD is incomplete without an assessment of other common comorbid mental health conditions.

PTSD prevalence varies across the globe. Statistics indicate that approximately 7% - 8% of the population of the United States of America (USA) will likely develop PTSD during their lifetime (APA, 2013; Hayes, Vanezakker, & Shin, 2012; Resick, Williams, Suvak, Monson, & Gradus, 2012). Interestingly, the National Center for PTSD (US Department of Veterans Affairs) estimated that in the mid-to-late 1990s, while the lifetime prevalence of PTSD in the USA was 5% in men and 10% in women, PTSD prevalence rates among Vietnam veterans during this same period reached 15.2% (Iribarren et al., 2005). Creamer, Burgess and McFarlane (2001) have estimated a 12-month PTSD prevalence rate of 1.33% within the Australian community. In their study, they concluded that PTSD is a highly prevalent disorder in Australia, and that it is commonly associated with high rates of anxiety, depression and substance disorders. Studies from Africa reveal the effects of PTSD on African populations (Njenga, Nguithi, & Kang'ethe, 2006). The results of a study conducted by Lukoye et al. (2013) in the general population of South Africa indicated lifetime and 12-month PTSD prevalence rates of 2.3% and 0.7%

respectively, while the conditional prevalence of PTSD after trauma exposure was 3.5%. In Kenya, in the Molo Division of Nakuru County, Njau (2005) sought to establish the relative PTSD prevalence rates of heads of households who were survivors of ethnic clashes (1991-1992) and heads of households who were not affected by ethnic clashes. The results indicated a PTSD prevalence of 80.2% among heads of households who were survivors of ethnic clashes, compared to just 10.6% among heads of households who were not exposed to ethnic clashes. Similarly, in 2006, Lukoye, Kathuku and Ndetei conducted a cross-sectional, descriptive study (n = 181) aimed at measuring lifetime PTSD prevalence rates. For this study, they used a socio-demographic and traumatic events questionnaire, structured clinical interviews¹ and the Impact of Event Scale - Revised (IES-R). Their findings revealed a lifetime PTSD prevalence rate of 72.9% and a current PTSD prevalence rate of 65.7%.

What can be drawn from these studies is that the mental health consequences of conflict and violence remain long after the end of traumatic events. It is therefore clear that migrant populations in post-conflict and violence situations are in need of mental health interventions just as acutely as they are in need of physical health and other emergency support. Yet, while it was clear that the 2007/8 PEV survivors in Kenyan IDP camps were in need of psycho-social support and care, very few interventions were initiated (Lukoye, 2010). Indeed, today, survivors are still trying to reconstruct their lives. Furthermore, despite the trauma of the 2007/8 PEV on IDPs, few studies have emphasized the particular vulnerabilities that IDPs faced. The key concern that therefore drives this study is the imperative to gather empirical data on the psycho-social profile of IDPs, and to help better evidence the need for psycho-social interventions in the particular context of PEV.

Literature Review

Global PTSD trends

Many studies support a general pattern of global PTSD prevalence. Indeed, despite variations in prevalence rates, clinicians and researchers are in general agreement that PTSD symptoms are common following exposure to trauma. According to Iribarren, Prolo, Neagos, and Chiappelli (2005), whereas the onset and progression of PTSD is characteristic for every individual subject, data available from the National Center for PTSD suggests that nearly 8% of men and 20% of women develop PTSD, and approximately 30% of these people develop a persistent lifetime chronic PTSD. DeYoung, Kenardy, Cobham, and Kimble (2012); and LeBrocque, Hendrikz, and Kenardy (2010) have stressed that nearly 50% of survivors have an impairing and unremitting course of PTSD after exposure to trauma. The results of a study conducted by de Vries and Olf (2009) found that 80.7% of a representative sample in the Netherlands had a lifetime history of trauma exposure, with a lifetime PTSD prevalence of 7.4% and a past-year prevalence of 3.3%. Similarly, Norris et al. (2003) carried out a study on the epidemiology of trauma and PTSD in Mexico. Their results indicated a lifetime prevalence of exposure and PTSD of 76% and 11.2% respectively. In the context of large-scale conflict, Engdahl, Dikel, Eberly and Blank (1997) initiated a study on Prisoners of War (POWs) from World War II and the Korean conflict. This study was conducted some 50 years after the cessation of conflict. Their results showed PTSD rates of 29% and a lifetime prevalence rate of 53%. The study revealed that the most severely traumatized group was POWs held by the Japanese, with PTSD lifetime rates of 84% and current rates of 59%. Wang, Salihu, Rushiti, Bala and Modvig (2010) conducted a population-based

¹ Structured clinical interviews for DSM-4 (diagnostic and statistical manual IV) (SCID-4).

study in northern Kosovo with the purpose of assessing the long-lasting effects of ethnic conflict on health and wellbeing at the family and community levels. The results indicated that there was a significant correlation between avoidance experience and psychological distress. In another study, de Jong et al. (2001) indicated that PTSD rates were 28% in Cambodia, and 37% in Algeria. Finally, in respect to migration specifically, Finklestein, Laufer and Solomon (2012) examined the exposure of Ethiopian refugees to stressful pre-migration, peri-migration and post-migration events, and the implications for both PTSD and dissociation. The results revealed significant differences among the three groups in respect to PTSD rates (with pre-migration at 27%, peri-migration at 15% and post-migration at 26%), yet no differences in respect to dissociation. As such, among the three groups, while a significant relationship was found between PTSD symptoms and cumulative trauma, no such relationship was found between dissociation and cumulative trauma.

The American Psychiatric Association (APA) (2013) has stated that the development of mental disorders among survivors of traumatic events is due to a combination of interacting social, psychological and biological factors. These may include, among other factors, the severity of the experience, pre-existing accumulation of loss and stress, or new or pre-existing mental or physical illness or disabilities. It is therefore apparent that a complex interaction of multiple factors, both pre-trauma and post-trauma, work together to determine the extent to which individuals and communities are susceptible to developing post-traumatic stress responses. Although estimates do vary, most researchers agree that over 90% of individuals diagnosed with PTSD have at least one other psychiatric disorder, including either depression, anxiety, alcohol and/or drug abuse, or suicidal thoughts (Breslau & Anthony, 2007; Kessler et al., 2005). The results of a study by Stein et al. (2009) indicated that the most prevalent classes of psychiatric disorders in South Africa were anxiety (15.8%), substance abuse (13.3%) and mood (9.8%). The lifetime prevalence estimate of any one disorder was 30.3%, with 11.2% of respondents having two disorders, and 3.5% of respondents having three or more disorders. Among Ugandan survivors of conflict-related trauma, Musisi (2005) found that the most common mental health conditions were PTSD at 39.9%, depression at 52%, anxiety at 60% and somatization at 72.2%. Noh, Hyman and Fenta (2001) conducted an epidemiological community survey focused on mental health needs in Ethiopian communities in North America. Similarly, they again considered the prevalence of mental health conditions such as depression, anxiety, PTSD and somatization. Their study revealed that 3% of their sample had a generalized anxiety condition and 5.8% suffered from PTSD. PTSD was more prevalent among men, at 6.9%, than women, at 4.3%, although this gender difference was not statistically significant.

The risk of suffering from PTSD is, however, said to be higher among women, as well as among individuals of lower socio-economic status and survivors of assault. For example, Norris et al. (2003) have reported epidemiological prevalence of trauma exposure and PTSD in low income countries at 76% and 11.2% respectively. Elsewhere, Karam et al. (2008) found that the 12-month PTSD prevalence rate for women in a national epidemiological study in Lebanon was 2.0%. In respect to gender differences in PTSD sensitivity, a South African study conducted by Breslau & Anthony (2007) found a PTSD prevalence rate ranging from 7.1% to 9.2%. The study also noted that the period from adolescence to emerging adulthood was a time of increased risk of exposure to trauma. In addition, it was found that victims of assault evidenced the highest probability of developing PTSD relative to other types of trauma. The effect of this was strongest for women, particularly those who had experienced sexual assault and rape. In another study, Neuner et al. (2004) found that among a random sample of 3,339 refugees in the west Nile

region, which included Ugandans and Sudanese, 31.6% of the male respondents and 40.1% of the female respondents met the symptom criteria for PTSD. Finally, Ndetei et al. (2005) carried out a descriptive study on pregnant women affected by the 1998 bomb blast in Nairobi, Kenya. The findings of their study indicated that despite the perceived benefits of interventions that had been put in place after the bomb blast, there was in fact only a limited ameliorating effect on the intensity of PTSD in exposed mothers three years after the event.

Political violence and PTSD

The literature clearly reveals that the trauma of political violence has an impact on the survivors of such events. Indeed, findings from over 50 studies demonstrate how political violence threatens individual functioning in relationship to one's environment, community functioning and the social fabric of society, and governmental functioning and service delivery to populations (Sousa, 2015). Distrust, isolation, suspicion and withdrawal are consequences of political violence (Dillenburg, Fargas & Akhonzada, 2008; Flores, Ruano & Funchal, 2009; Lykes, Beristain & Perez-Armioan, 2007). Of the variety of poor mental health outcomes that have been reported among such survivors (Barber, 2008; de Jong et al., 2008; Haj-Yahia, 2008), PTSD is a frequent, tenacious and disabling consequence of emotionally traumatic experiences (Greenberg, 2015; Wei, Gevonden & Shalev, 2016; Wilson, 2008). PTSD prevalence rates have been shown to be high in countries that have experienced conflict and widespread violence. Numerous studies have examined the prevalence of PTSD in the general population of the Middle East. For instance, Shalev, Tuval, Frenkiel-Fishman, Hadar and Eth (2007) reported on the prevalence of PTSD rates in Israel, 10 months into the second *Intifada*. Their study revealed that the PTSD prevalence rate among those communities that had been directly exposed to the violence was 27.0%, higher than the 21.4% rate among those communities that had been only indirectly exposed. In similar studies, Bleich, Gelkopf and Solomon (2003), and de Jong et al. (2001), found a PTSD prevalence rate of 9.4% and 17.8% among adult Israelis and adults in the Gaza Strip respectively. In Lebanon, Karam et al. (2008) found a 3.4% lifetime PTSD prevalence rate in a sample of adult civilians.

PTSD prevalence rates in the east African context of PEV and forced migration have been shown to be particularly high. A study by Pham, Vinck and Stover (2009), conducted among adults living in IDP camps in northern Uganda, found a PTSD rate of 54% and a depression rate of 67%, with an even higher risk being shown among women. In their 2014 study, Johnson et al. sought to assess the prevalence, characteristics and health consequences of the 2007/8 election-related violence in Kenya. In this national, cross-sectional, population-based cluster survey conducted among Kenyan adults aged ≥ 18 years, there was found to be an increase in human rights violations when compared to before the election, and over 30% of respondents met the MDD and PTSD symptom criteria.

Methodology and Research Design

Methodological underpinnings

For the purposes of this study, the cognitive-behavioral theory advanced by Aaron Beck will be employed. This theory, also known as cognitive restructuring or reframing, suggests that irrational or distorted thoughts about a particular event result in an unhealthy fear of that event. Evidence suggests that it is the individual's interpretation and appraisal of the trauma, and the ensuing memory, which contribute to the development and maintenance of PTSD (Ehlers & Clark, 2000; Kaczurkin & Foa, 2015). As such, there is a need to teach PTSD sufferers how to

identify and reframe maladaptive beliefs and dysfunctional cognitions related to that specific trauma (Ehlers & Clark, 2000; Hembree & Foa, 2004). PTSD behavioral models in general highlight the role of Pavlovian conditioning in fear acquisition. Accordingly, a basic assumption of the Pavlovian model is the associative learning that underlies the development of excessive maladaptive fear (McLean & Foa, 2011). It is this model that this study applies to PTSD. Thus, the 2007/8 PEV is considered an unconditioned stimulus (US), which has been associated with various non-threatening conditioned stimuli (CS), such as smells, sights, sounds and people. For the 2007/8 PEV IDPs, this association triggers a fear response that may include re-experiencing, severe emotional responses, physiological reactions and avoidance behavior. It is this fear response that formed the basis for assessing the presence of PTSD among IDP participants in this study.

Research design

During the 2007/8 PEV, 350,000 (some estimates are up to 600,000) people were internally displaced (Harneit-Sievers & Peters, 2008, 133ff). This research study targeted the population of Maai Mahiu camp in Nakuru County, which at the time totaled 786 residents. Maai Mahiu camp is approximately 80 kilometers from Nairobi along the Nairobi-Maai Mahiu-Naivasha highway. It is five kilometers from Maai Mahiu town. The semi-arid region around Maai Mahiu has no real sustainable industry other than small-scale businesses. Poverty is rife, and drought inhibits any crop growth. The Maai Mahiu camp came into existence following the forced eviction of people from their homes and farms during the 2007/8 PEV. While some of the IDPs in Maai Mahiu still shelter in dilapidated pitched tents, others have been moved from their tents into small homes built by the non-governmental organization, Habitat for Humanity. Other residents have set up self-help camps by pooling their resources to purchase small parcels of land for settlement that they then subdivide among themselves. In total, there are now five established resettlement villages in the camp – it is from these villages that the research participants for this study were drawn.

The respondents included both adult females and males, married and single IDPs, and their offspring. The inclusion criteria for participants consisted of traumatized adults who consented voluntarily to participate in the study. It was decided that children below 18 years of age would be excluded from the study. Recognizing that IDPs are highly stigmatized (Lukoye, 2010), as a community entry strategy, the researcher used the Huruma-Amani-Eldoret (Maai Mahiu) camp's chairman to sensitize the respondents about the study. After sensitization, the participants were purposively sampled and eventually screened for severity of PTSD. The main goal of the purposive sampling method used was to focus on particular characteristics of a population that were of interest to answering the research questions set. In total, 139 research participants were selected, all of whom were willing to provide relevant information by way of their knowledge or experience. For this study, it was necessary to make the assumption that IDPs who suffered from PTSD did so as a consequence of their traumatic experiences of PEV.

The baseline data for this research was of a cross-sectional study design. This was used to enumerate epidemiological data for later pretest-posttest quasi-experimental research. The Maai Mahiu camp was divided into five sections, namely 1) Huruma-Amani-Eldoret 2) Muhang'iri; 3) Neema; 4) Tumaini, and 5) Amani B. A researcher-generated socio-demographic questionnaire was used to capture the necessary socio-demographic data of the respondents. To measure the severity of PTSD, the Severity of Posttraumatic Stress Symptoms—Adult* *National Stressful Events Survey PTSD Short Scale (NSESSS) was used. After obtaining informed consent to

voluntary participate in the study, participants who met the inclusion criteria were assembled in a classroom setting in groups of thirty, where they then filled out the study questionnaires. The data collected was analyzed using SPSS version 21.

Research Findings

The research findings are presented in Tables 1, 2 and 3 below. The data reveals the prevalence of PTSD among 2007/8 PEV adult survivors now resident in Maai Mahiu. The socio-demographic characteristics considered in this study are gender, age, education level and marital status.

Table 1: The prevalence of PTSD among research participants

Covariate	PTSD Prevalence	95% CI
Gender		
Male	57.8% (26/45)	43.37% to 72.23%
Female	62.8% (59/94)	53.03% to 72.57%
Age		
< 46 years	61.5% (32/52)	48.27% to 74.73%
> 46 years	60.9% (53/87)	50.65% to 71.15%
Education level		
Post-primary education	65.2% (15/23)	45.73% to 84.67%
Primary education	62.7% (52/83)	52.3% to 73.1%
Without formal education	54.5% (18/33)	37.51% to 71.49%
Marital status		
Single	45.3% (24/53)	31.9% to 58.7%
Married	70.0% (56/80)	59.96% to 80.04%
Separated/widowed	83.3% (5/6)	N/A
Overall	61.2% (85/139)	53.1% to 69.3%

Table 1 (above) presents the PTSD prevalence rate among the research participants. The results indicate an overall PTSD prevalence rate of 61.2% (95% CI: 53.1%, 69.3%), which is comparable across genders (males: 57.8%, 95% CI: 43.37%, 72.23%; females: 62.8%, 95% CI: 53.03%, 72.57%). Married survivors had a higher prevalence of PTSD, at 70.0% (95% CI: 59.96%, 80.04%), than survivors who were single, at 45.3% (95% CI: 31.9%, 58.7%). Overall, these findings reveal a high prevalence of PTSD among the survey respondents.

Table 2: PTSD and associated socio-demographic characteristics of research participants – bivariate analysis

Covariate	No PTSD	PTSD	χ^2 Square	p-value
Gender				
Male	42.2% (19/45)	57.8% (26/45)	0.319	0.572
Female	37.2% (35/94)	62.8% (59/94)		
Age				
< 46 years	38.5% (20/52)	61.5% (32/52)	0.005	0.942
> 46 years	39.1% (34/87)	60.9% (53/87)		
Education level				
Post-primary education	34.8% (8/23)	65.2% (15/23)	0.845	0.655
Primary education	37.3% (31/83)	62.7% (52/83)		

Without formal education	45.5% (15/33)	54.5% (18/33)		
Marital status				
Single	54.7% (29/53)	45.3% (24/53)	9.497	0.009*
Married	30.0% (24/80)	70.0% (56/80)		
Separated/widowed	16.7% (1/6)	83.3% (5/6)		

Table 2 (above) presents a bivariate analysis of PTSD and the associated socio-demographic characteristics of the research participants. In this analysis, Pearson's chi-square test of significance was conducted to determine the statistical significance between PTSD and each of the socio-demographic variables. The results in Table 2 indicate that marital status had a statistically significant association with PTSD, with a p-value of 0.009. Separated/widowed and married survivors had a higher PTSD prevalence rate, at 83.3% and 70.0% respectively, when compared to single survivors, at 45.3%. In contrast, the results indicate that the variables of gender, age and education level had no statistically significant association with PTSD ($p > 0.05$) at the baseline.

Table 3: PTSD and associated socio-demographic characteristics of research participants – multivariate analysis

Covariate	Odds Ratio (OR)	95% CI	p-value
Gender			
Male	1		
Female	0.812	0.393-1.675	0.573
Age			
< 46 years	1		
> 46 years	1.026	0.507-2.078	0.942
Education level			
Without formal education	1		
Primary education	0.640	0.213-1.919	0.426
Post-primary education	0.895	0.340-2.352	0.821
Marital status			
Single	1		
Married	0.166	0.018-1.515	0.111
Separated/widowed	0.467	0.052-4.210	0.497

Finally, Table 3 (above) presents a multivariate analysis of PTSD and the associated socio-demographic characteristics of the research participants. Logistic regression was used to model the relationship and strength among the four variables. The results show that the Odds Ratio (OR) for those respondents with primary and post-primary education was 0.640 and 0.895 respectively. For married and separated/widowed survivors the OR was 0.166 and 0.467 respectively. This therefore indicates that these respondents were less likely to develop PTSD. However, it is important to note that the findings further indicate that there was no predictor that had a statistically significant association with PTSD. Therefore, marital status revealed no association with PTSD among the survivors during the study period. In sum, these findings suggest that PEV was a severe traumatic event for *all* survivors, with everyone being affected.

Discussion

The findings clearly indicate that PTSD was highly prevalent among those IDPs featured in the study, with an overall prevalence rate of 61.2%. These findings are therefore comparable to previous studies conducted in developed countries that have found that survivors of traumatic events tend to be vulnerable to developing PTSD. For example, the results of Roberts, Kitchiner, Kenardy and Bisson (2009) indicated that over one third (36%) of respondents met symptom criteria for PTSD. In respect to Africa, these findings are similar to those of Ssenyonga, Owens and Olema, 2013. They conducted a cross-sectional survey that examined post-traumatic growth, resilience and PTSD among a random sample of 426 Congolese refugees' residents in Nakivale camp. In that study, although different methods and instruments were used, the overall PTSD prevalence rate was 61.7%, therefore only 0.5% higher than the findings in this study, with 58.6% females recorded as suffering from PTSD. The present study's findings are, however, higher than those of Karunakara et al. (2004), who recorded PTSD rates of 48% among residents in southern Sudan and 46% among refugees from southern Sudan living in Uganda. In addition, lower PTSD rates of 39.9% were reported by Musisi (2005) among Ugandan survivors of conflict. The findings by Mugisha et al. (2015) also indicated a lower PTSD prevalence rate of 11.8 % in northern Uganda, with a prevalence rate of 10.9 % and 13.4 % among female and male respondents respectively.

Turning specifically to Kenya, the findings of this study appear similar to those of a study of Mau Mau concentration camp survivors, conducted by Lukoye, Kathuku, and Ndeti (2006). Their findings indicated a lifetime PTSD prevalence rate of 72.9% and a current PTSD level of 65.7% among their study respondents. Njau (2005) indicates an even higher prevalence rate of 80.2% for PTSD among the heads of households of ethnic conflict survivors in the Rift Valley region. The present study has found PTSD prevalence rates of 57.8% and 62.8% among male and female respondents respectively. These findings are higher than the findings of Neuner et al. (2004). In their study, they found that among Sudanese and Ugandan refugees in the west Nile region, 31.6% of male respondents and 40.1% of female respondents met the symptom criteria for PTSD. The high PTSD prevalence in the present study can be attributed to the fact that the respondents were IDPs who had been violated by neighbors who were known to them and who were still living in the same region, despite the fact that the country was now at peace. Thus, knowing the violator, and being unable to return to their homes, can, according to Beck's theoretical model of cognitive behavior, provoke a severe emotional response and re-experiencing, and a state of hyper-arousal and forced avoidance. These four areas are assessed in the diagnosis of PTSD (APA 2013).

In the present study, however, the findings reveal no socio-demographic variable as a predictor for PTSD development. This is contrary to the findings of Ssenyonga et al. (2013), which showed that being a female and having a low education level were among significant predictors of PTSD where the regression model accounted for 12.2 percent of the variance in PTSD. Based on the findings of this study though, it can be concluded that gender and education level are in fact not predictors of PTSD. It can be postulated that the research participants in this study were exposed to severe conflict, instigated by people they knew. They have also lost property and are currently living in a site that is environmentally inhabitable. It is for these reasons that socio-demographic characteristics might not have played a role in predicting PTSD outcomes.

Conclusion

It is clear that many of the PEV survivors, who were resident at Maai Mahiu have been affected by PTSD. The results from this study provide vital insights into trauma and mental health. Collectively, these findings indicate that traumatic experiences can have adverse effects that act to the detriment of survivors and their ability to recover and rebuild their lives. Given the elevated PTSD rates among the research participants, the prevalence in this study may reflect only a proportion of the mental health burden among IDPs. It is important that the wider Kenyan population that has been exposed to PEV receive PTSD assessments, and that those who are in need of support are provided with the necessary treatment. These findings call for the government to adequately plan for and programme mental health interventions for IDPs. In addition, the government must ensure the provision of adequate resources, including the deployment of sufficient numbers of qualified personnel to support survivors. This study further demonstrates that traumatic events are an etiological agent in the genesis of psychopathology. There is therefore a real need to educate survivors on the importance of psycho-therapeutic interventions, such as counseling, as a way of supporting and hastening their process of healing.

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NB: Ethics approval for the research study was obtained from Daystar University, Nairobi Hospital Ethics Board, and the Kenya National Commission for Science, Technology and Innovation (NACOSTI). Informed consent to voluntarily participate in the study was obtained from all research participants. Research participants were assured of anonymity and confidentiality in respect to their data. All information was kept confidential and all processed data was securely stored