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Brief Trauma Intervention with Rwandan Genocide-Survivors Using Thought Field Therapy

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Abstract: This randomized waitlist control study examined the efficacy of Thought Field Therapy (TFT) in reducing Posttraumatic Stress Disorder symptoms in survivors of the 1994 genocide in Rwanda. Participants included 145 adult genocide survivors randomly assigned to an immediate TFT treatment group or a waitlist control group. Group differences adjusted for pretest scores and repeated measures anovas were statistically significant at $p < .001$ for 9 of 10 TSI trauma subscales and for both severity and frequency on the MPSS, with moderate to large effect sizes. Reduced trauma symptoms for the group receiving TFT were found for all scales. Reductions in trauma symptoms were sustained at a 2-year follow-up assessment. Limitations, clinical implications, and future research are discussed. [International Journal of Emergency Mental Health, 2011, 13(3), pp. 161-172]..

Key words: *trauma treatment, Thought Field Therapy, Rwanda, brief treatment*

Posttraumatic Stress (PTSD) in the general world population constitutes a significant public health problem. At the global level, it is estimated that treatment for PTSD accounts for 4% of the global burden of disease, and that at any one point in time, 10.4% of women and 5% of men worldwide suffer from PTSD (Kastrup & Ramos, 2007).

Civil war often results in atrocities, forced migration, violence, and mass fatalities. Exposure to these events has the potential to lead to extreme psychological strain and mental health pathology, including acute stress reactions and PTSD (Ahmed, 2007).

In countries that are recovering from war or genocide, opportunities for ongoing interventions such as individual counseling, group counseling, and support groups are often severely limited due to fractured governmental and community infrastructure and limited mental health resources; thus, many war-related trauma survivors endure trauma symptoms for extended periods of time.

According to the World Health Organization (WHO), mental illness is predicted to be the second largest cause of death and disability in populations around the world by 2020 (McLeigh & Sianko, 2011). Traumatic events contribute significantly to this unfortunate statistic and, at the same time, traumatic events can challenge the resources of even the most developed countries. There is a need for finding effective and

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practical ways to deliver services when large populations are affected by traumatic events. In their review of the research on mental health and refugee children, Ehntholt and Yule (2006) found that many war-surviving refugees experience mental health problems such as depression, anxiety, grief, and PTSD. They found promising treatments for these problems to include Cognitive Behavior Therapy (CBT), Testimonial Psychotherapy, Narrative Exposure Therapy (NET), and Eye Movement Desensitization and Reprocessing (EMDR) for war refugees out of their country (Ehntholt & Yule (2006)). Little, however, has been explored concerning effective trauma interventions following large-scale trauma within country.

Şalcıoğlu and Başoğlu (2008) reported on the success of treating child survivors of the 1999 earthquakes in Turkey with only one to four sessions of control-focused behavioral treatment (CFBT). They described CFBT as largely a self-help intervention. In their study, they reported finding improvements in 80% of survivors after only a single session of CFTB.

This study examines the use of another self-help method, Thought Field Therapy (TFT) which, like CFTB, can be disseminated through development of community-based partnerships of trained mental health practitioners and trained community members. This study was conducted during the authors' third invited volunteer trauma relief mission. Practical constraints dictated utilizing a single treatment session, with TFT being administered by local community members who received a two-day intensive training prior to the intervention and supervision during the intervention.

The primary aims of this study were (1) to determine if the TFT immediate treatment group participants would show greater trauma symptom reduction than the wait-list control group participants on measures of PTSD symptoms, and their severity and frequency seven days post-treatment, (1) to determine if the wait- list control group would show changes after subsequent treatment, and (3) to determine if the effects of TFT were sustained over a two-year period..

Rwanda and the Genocide of 1994

In Rwanda, during a 100-day period, from April 6 to July 16, 1994, an estimated 800,000 members of the minority ethnic population and many moderates belonging to the majority ethnic population were massacred by a group of radicals of the majority population (Alexander, 2010). Pham, Weinstein, and Longman (2004) assessed the level of posttraumatic stress symptoms in 2091 adults from four communes in Rwanda in 2002. They found that 24.8% (n = 518) met the symptom criteria for PTSD, with over 70% reporting that they had been forced to flee their homes, had a close family member killed, and/or that they had property destroyed or lost. Hagengimana, Hinton, Bird, Pollack, and Pitman (2003) studied 100 Rwandan widows in 2001. They found that 40 participants reported that they had suffered from panic attacks in the past four weeks. Thirty-five reported having a panic disorder, and 46 met the diagnostic criteria for PTSD.

Schaal and Elbert (2006) interviewed 68 Rwandan orphans ten years post-1994 genocide and found that 41% had witnessed the murder of at least one of their parents, and 44% suffered from PTSD. These authors found that, as with post-disaster studies conducted with children in industrialized societies, child and adolescent survivors of the 1994 genocide in Rwanda reported experiencing intrusive, thoughts and images of what they had seen, avoidance, emotional numbing, and arousal. According to Wood (2007), in effect, everyone in Rwanda is suffering from some aspect of traumatic stress.

Thought Field Therapy Literature Review

In a non-peer reviewed special edition of the Journal of Clinical Psychology with invited critiques, Johnson, Shala, Sejdijaj, Odell, and Dabishevci (2001) studied TFT and feelings of subjective distress. Self-reported distress was rated with Wolpe's (1958) Subjective Units of Distress (SUD) of 105 Kosovo war-related trauma survivors ranging in age from 4 to 78. Total relief of subjective distress was reported by 103 participants. In the same edition of the Journal of Clinical Psychology, Sakai and colleagues (2001) summarized clinical applications of TFT at Kaiser Permanente Hospital, Honolulu, Hawaii, with 714 patients. Their findings included statistically significant within-session reductions in self-reported distress with TFT applications for conditions that included anxiety, depression, anger, bereavement, chronic pain, panic disorder, and trauma.

Sakai, Connolly, and Oas (2010) used TFT in 2006 with 50 adolescents who were orphaned by the Rwandan genocide and were experiencing PTSD symptoms as measured by the Child Report of Post-Traumatic Stress (CROPS), and the companion testing instrument, Parent (guardian) Report of Post-Traumatic Stress (PROPS) (Greenwald & Rubin,

1999). The CROPS was completed by the adolescents, and the PROPS was completed by the caregivers. After one TFT session, participants and caregivers reported significant decreases in PTSD symptoms, including nightmares, flashbacks, bedwetting, depression, feelings of isolation, jumpiness, and difficulty concentrating, using CROPS and PROPS self-report instruments. At one year follow- up, again using CROPS and PROPS, these improvements were sustained.

After treating Rwandan adult and child genocide survivors with TFT, and conducting requested TFT trainings of Rwandan community leaders for two years, the authors of this study were invited to train and supervise a group of Rwandan women, already engaged on a volunteer basis, in treating their fellow countrymen and women for trauma. This service group, Women's Foundation Ministries, was willing to participate in a research study as part of this trauma relief project.

METHoD

Intervention

Thought Field Therapy is a brief treatment, often used as a self- help treatment, developed by psychologist Roger Callahan (Callahan, 1985; Callahan & Callahan, 2000). Once a client has identified a specific problem, a typical TFT session begins with exposure to the problem, usually by the therapist asking the client to think about the problem. While the client is thinking about the problem and identifying feelings elicited by thinking about the problem, the client is then asked to simultaneously stimulate selected acupoints on the surface of the skin, by tapping with their fingers, in a sequence that is specific to the identified emotion(s). Each TFT tapping protocol or algorithm designates the specific acupoints to be tapped, as well as the order in which they are to be tapped. These algorithms address a range of emotions such as anxiety, fear, anger, guilt, shame, depression, embarrassment, and addictive urges. Elements of PTSD, such as hyperarousal, dissociation, and defensive avoidance, are targeted using a trauma treatment protocol.

A client first rates the emotional intensity he or she feels when thinking about the problem, usually by giving it a 0 to 10 subjective units of distress (SUD) rating (Wolpe, 1958). The practitioner then selects the most appropriate tapping protocols for the client's identified emotions, and then models the tapping sequence. The client simultaneously taps his or her body, tapping on the points being modeled by the practitioner, while keeping the memory or trigger mentally activated. Then a SUD is taken and, if symptoms are reducing, another round of tapping is done after doing some auxiliary activities (including eye movements, bilateral stimulation, and counting). A subsequent SUD is assessed. The process is repeated following additional auxiliary activities involving other acupoints, until the rating is down to 0 or the lowest it can go for the client in the time available. Then, whatever other traumatic memories or triggers have arisen or remain may be addressed. Optimally, in treating a trauma survivor, each major traumatic memory that triggers the individual is addressed. Although there are more advanced levels of TFT that require more extensive training, only the TFT algorithms described above were taught and applied in this study. The scope of this paper will be limited to the use of TFT at the algorithm level to address symptoms of trauma.

Participants

Participants were 171 adult survivors of the 1994 genocide in Rwanda, between the ages of 18 and 73, who volunteered to receive brief treatment for symptoms of trauma. The participants were recruited by leaders of Women's Foundation Ministries before the arrival of the authors; all participants were members of various orphanages, AIDS, and widows' groups in the capital city of Kigali who felt that they suffered from symptoms of trauma. The participants were told by the leaders of Women's Foundation Ministries that they would receive free transportation by taxi-vans to and from the study, and snacks while actively participating in the study, but that they would receive no financial compensation. All participants in the study were 18 years or older, and all but a few were able to read Kinyarwanda, the language into which the consent forms and testing instruments were translated.

All participants met the DSM-IV criterion A1 for Posttraumatic Stress Disorder symptoms, (American Psychiatric Association [DSM-IV-TR], 2000): "Exposure to an extreme traumatic stressor involving direct personal experience of an event that involves actual or threatened death or serious injury, or other threat to one's physical integrity; or witnessing an event that involves death, injury, or a threat to the physical integrity of another person; or learning about unexpected or violent death, serious harm, or threat of death or injury experienced by a family member or other close associate" (p. 463) by having been in Rwanda and having survived the genocide of 1994.

Participants identified one or more unwanted emotions relative to their past experiences, such as anxiety, fear, anger, guilt, or depression, that they wished to address. A majority, 68.3% (n = 99) of the participants, reported having PTSD symptoms (utilizing the sum score of the MPSS). The TFT treatment group was compared to the waitlist control group one week following their treatment to determine if TFT would produce changes greater than no intervention. The mean duration of the intervention for all participants was 41 minutes (SD = 29), and the median duration of the intervention for all participants was 30 minutes.

Of the 171 participants, one did not complete the questionnaires completely, and 12 participants from the treatment group and 13 participants from the control group did not return after seven days to complete the posttests. The final sample was comprised of 145 study participants between the ages of 18 and 73 (M = 37.97, SD = 12.71). The majority of the participants were female (119, 82.1%; male 26, 19.9%). The participants were native to many regions of Rwanda, with the largest proportions from Kigali (47, 32.4%) and Butare (25, 17.2%), Other regions represented in the study were: Other (23, 15.9%), Gitamara (21, 14.5%), Kibuye (8, 5.5%), Kibungo (7, 4.8%), Cyangugu (6, 4.1%), Gisenyi (4, 2.8%), Rugengeri (1, .7%), and Not specified: (1, .7%).

Reported experiences during the 1994 genocide included: being beaten, 87 (60%), having been abused, 80 (55.2%), witnessing others being beaten, 116 (80%), witnessing others being killed, 124 (85.5%), hearing others being hit or beaten, 118 (81.4%) and being forced to do things they were against 48 (22.1% with 9, 6.2% missing). Eighty-four (58%) of the participants reported that they had previously sought treatment for the problems they had experienced since the genocide of 1994. Ninety-nine participants (68.3%) attained the PTSD cutoff score of 71 or above on the sum of their MPSS frequency and severity subscales. PTSD sum scores on the pretest MPSS ranged from 11 to 116 (M =79.77, SD = 22.4).

Of the 145 participants, 74 (51%) were assigned to a wait list control group. Of those 74, 57 returned for treatment. Of those who were treated, 36 completed a post-treatment assessment. The decrease in the number of treated participants from the wait list control group returning for the second posttest was due to a miscommunication that resulted in the lack of transportation for an entire sub-group, constituting 37% of the treated wait list control group.

Atwo-year follow-up was conducted. Of the original 145 participants, 88 participants (60.7% of the original sample) completed the two-year follow-up. Equivalency to the initial group was examined using comparisons between those present initially in the sample and those with data available at 2-year follow-up. No differences or associations statistically significant at p = .10 were found between the initial sample and the sample available for follow-up for gender or for pretest TSI trauma and MPSS scales.

Rwandan Therapists

All of the 28 Rwandan therapists trained, with one exception, were female members of Women's Foundation Ministry community. The exception was a Rwandan male orphanage director who had missed a previous training in Kigali and had asked to attend this training. All therapists and participants were native Rwandans who spoke Kinyarwanda. The therapists received two days of training in TFT at the algorithm level, including hands-on practice and supervision conducted by the authors, using translators. None of the Rwandan therapists in this study were mental health professionals.

Treatment Protocol

The standard TFT algorithm training manuals used throughout the study had been translated into French, the written language with which the trainees were most familiar. They were also available in English for those who preferred English. The trainers were available for supervision throughout the entire study, and to ensure that the standard TFT algorithm protocols taught in the training were adhered to by the newly trained Rwandan therapists.

Measures

The Modified PTSD Symptom Scale (MPSS) (Falsetti, Resnick, Resnick, & Kilpatrick, 1993) was used to assess the frequency and severity of the PTSD symptoms. The MPSS is a 17-item self-report, pencil-and-paper questionnaire. The 17 items correspond to symptoms of PTSD in the DSM-IIIR. Frequency is assessed on a 4-point scale from 0 = not at all, to 3 = 5 or more times a week. Severity is assessed on a 5- point scale from A = not at all distressing, to E = extremely distressing. Scoring criteria for experiences of PTSD as determined by the test developers were 23 or above on frequency, 47 or above on severity, and 71 or above as a sum.

The TSI was created by Briere (1995) to assess symptoms that trauma victims experience. The full 100-item measure was used. The TSI asks respondents about how often specific experiences occurred during the past 6 months. The instructions were modified during the post-testing to assess how often the experiences occurred over the last week. Internal consistency of the TSI has been estimated with Cronbach's alphas ranging from .74 to .91 for each subscale (Cohen, 1988). For the present study, the Cronbach's alphas ranged from .66 to .89. The scores of each subscale were summed and converted into a T-score by the scoring program. Changes from pre- to posttest and from posttest to follow-up were examined for each symptom.

A total of 99 pretest and posttest TSIs were included in the study. Forty–six completed TSIs were excluded: 27 (19%) were excluded at pretest and 19 (13%) at posttest from the study due to very high scores (above 75 t-score) on the Inconsistent Response subscale as recommended by the test developers, as this indicated they were less consistent in responding than 98% of the general population.

The specific subscales of the TSI are measures of Anxious Arousal, Depression, Anger/Irritability, Intrusive Experience, Defensive Avoidance, Dissociation, Sexual Concern, Dysfunctional Sexual Behavior, Impaired Self-Reference, and Tension Reduction Behavior. The Anxious Arousal subscale measures symptoms of anxiety that are specific to those associated with posttraumatic arousal, such as jumpiness and tension. The Depression subscale measures symptoms of depression of both mood state (feeling sad) and cognitive distortions (feeling hopeless). The Anger/Irritability subscale measures irritable affect or anger, along with anger- related thoughts and actions. The Intrusive Experiences subscale measures symptoms of posttraumatic stress including nightmares, flashbacks, and intrusive thoughts. The Defensive Avoidance subscale measures post-trauma avoidance, both behavioral (avoiding places or things that remind one of a traumatic event) and cognitive (pushing painful thoughts from one's mind). The Sexual Concerns subscale measures sexual distress, including dysfunction, dissatisfaction, and unwanted sexually-related thoughts or feelings. The Dysfunctional Sexual Behavior subscale measures the use of sexual behaviors that are indiscriminant, potentially self-harming, or to achieve goals that are non-sexual. The Impaired Self-Reference subscale measures problems related to the "self" such as lack of self-support and self-other disturbance. The Tension Reduction Behavior subscale measures the tendency to turn to external methods of decreasing internal tensions or distress, including angry outbursts, self-harm, and suicidal threats (Briere, 1995).

All instruments were translated from English to Kinyarwanda, the first language of most Rwandans, by a native Rwandan. They were then back-translated to English by a native speaker of English, and then the versions were reconciled according to standards of test translations. Participants completed a demographic form including age, gender, birth region, and a list of experiences during the genocide of 1994 (experienced being beaten; witnessed others being beaten; witnessed others being killed; heard others being hit or beaten; heard about others being hit, beaten, or killed; and being forced to do things against their will.) The demographic form also included two questions about previously engaging in talking about their experiences and/ or previously seeking treatment.

Design and Procedures

A randomized waitlist control group design was used. If, after reading the consent letter, the participants gave verbal consent, they were randomly assigned to an immediate treatment group or the waitlist control group. Blank surveys were in file folders delineated as treatment (blue folders) or waitlist group (red folders) and were stacked alternately. The intake person removed the top file from the stack and assigned the participant to that group, continuing with alternating group assignments. To mitigate against measurement bias, standard pre-written instructions were given to each participating group stressing the need to answer each question accurately, and participants were assured of confidentiality of their coded responses, which would be scored by independent researchers in the USA. On the follow-up tests, the standard instructions stressed the need for accurate responses to each question.

All participants completed the demographic form and pretests (MPSS and TSI) privately, except on rare occasions where they needed help from a Rwandan translator for understanding a question. They were instructed to complete the MPSS prior to taking the TSI in the event that they would become weary of test-taking. Participants assigned to the treatment group returned two days later for treatment with TFT from a randomly assigned, newly trained Rwandan therapist. The participants formed a line, and the therapists came out one by one from another line and took the first participant in line. The study took place in a vacant rental home and back yard with plastic chairs and tables inside and outside.

The treatment group and the waitlist group were asked to return seven days following their treatment to complete the posttests. The waitlist group received treatment with TFT two days following the posttest and returned seven days after their treatment to take a second posttest. All pretests and posttests (with the exception of a few with minimal reading skills who were helped by translators) were completed independently by the participants while sitting at tables outdoors.

RESULTS

Group Comparability

The participants were randomly assigned to either the treatment group (n = 71) or the waitlist comparison group (n = 74). Demographic differences between the participants in the treatment group and control group were examined using chi square analyses and t-tests. No significant differences were found between the two groups on age or gender. The treatment group participants ranged in age from 18 to 73 (M = 37.80, SD = 12.94), and the control group participants ranged in age from 20 to 71 (M = 38.14, SD = 12.57). The treatment group was 80.3% female (n = 57), and the control group was 83.8% female (n = 62). The two groups had similar percentages of participants attaining the MPSS sum cutoff score of 71. At pretest, the treatment group had 50 (70.4%) participants, and the control group had 40 (66.2%) participants with MPSS sum scores of 71 or above (χ^2 (1, 145) = .296, p = .59). Pretest scores for the MPSS and the TSI are presented in Table 1 by group. The pretest scores for

Table 1.
Pretest Mean Scores for Treatment and Waitlist Control Groups

	Treatment Group			Control					
Measure	M	SD	*n*	M	SD	*n*	*t*	*df*	*p*
TSI Pretest									
Anxious Arrousal	68.20*	10.9	50	69.10*	10.4	49	.42	97	.67
Depression	68.02*	10.4	50	68.16*	10.6	49	.079	6.8	
Anger/Irritability	65.14*	10.4	50	63.35*	11.8	49	-.80	97	.42
Intrusive Experiences	1.44*	11.8	50	72.88*	10.1	49	.65	97	.52
Defensive Avoidance	63.52	7.8	50	63.29	7.6	49	-.15	97	.88
Dissociation	73.14*	15.7	50	72.92*	13.9	49	-.07	97	.94
Sexual Concerns	60.50	15.2	50	56.29	12.7	49	-1.50	97	.14
Dysfunctional Sexual Behavior	60.30	17.9	50	52.65	10.5	49	-2.60	79.5	.01**
Impaired self-reference	67.40*	11.5	50	66.61*	10.5	49	-.36	97	.72
Tension Reduction Behavior	67.14*	15.3	50	64.78*	13.3	49	-.82	97	.42
MPSS Pretest									
Frequency	35.20	9.7	71	34.70	8.9	74	-.32	143	.75
Severity	45.03	15.0	71	44.62	14.1	74	-.17	143	.87
Sum	79.83	23.2	71	80.32	21.2	74	-.24	143	.81

* indicates above the T-score of 65 indicating clinically significant.
** indicates below .05, thus significantly different at pretest.

the MPSS were compared using t-tests, and no significant differences were found between the pretest scores for severity or frequency.

Pretests on the TSI required the exclusion of inconsistent data, identified by the creator, Briere (1995), as a score of 75 or over on the Inconsistent Data subscale. Forty-six total cases were removed per Briere's criteria (21 from the treatment group and 25 from the control group). The resulting group sizes for TSI analysis were treatment group (n = 50) and control group (n = 49). Independent samples t-tests revealed that both groups demonstrated significant trauma symptoms but were not found to be significantly different except on one subscale. The treatment group's mean T-score for dysfunctional sexual behavior was significantly higher at pretest than the control group's mean T-score. Scores of 65 or higher are considered clinically significant for all TSI subscales. The treatment group had a mean pretest T-score of 65 or above on seven subscales (Anxious Arousal, Depression, Anger/Irritability, Intrusive Experiences, Dissociation, Impaired Self-Reference, and Tension Reduction Behavior), with the control group having a mean pretest T-score of 65 or above on five subscales (Anxious Arousal, Depression, Intrusive Experiences, Dissociation, and Impaired Self-Reference). The overall differences between the two groups indicate reasonable group equivalence.

Treatment outcome

The MPSS and TSI pre- and posttests measure changes in specific trauma symptoms. The first analysis was a paired-sample t-test to determine within group changes for the treatment and control groups to determine if there were statistically significant differences between the treatment and control groups. Next, an ANCOVA was run controlling for pre-test scores to determine the effect of the intervention. If the assumptions of ANCOVA were not met, a repeated measures analysis of variance was conducted with a focus on the interaction term. To address inflation of Type I error due to use of multiple statistical tests, α = was set at .005.

Pre-Post Change

There were significant decreases in reported symptoms from pre to posttest on the MPSS for the treatment group on both the Severity (mean change of 18.13 points) and Frequency Scales (mean change of 10.0 points; $p < .001$). There were significant decreases in reported symptoms from pre- to posttest for the treatment group on all 10 TSI subscales, but no significant changes on any of the 10 TSI subscales for the control group. See Table 2 for means and standard deviations for pre- and post-intervention scores.

When the waitlist control group later received TFT, pre-post changes were assessed for that group, as well. All differences from pretest to post-treatment were statistically significant for MPSS frequency and severity and for the 10 TSI scales.

Group Comparisons

To determine if there were statistically significant differences between the treatment and control groups, analyses of covariance (ANCOVA) were conducted to adjust the groups' posttest scores for pretest differences. ANCOVAs were conducted for each TSI subscale and MPSS scales by using pretest scores as covariates. The adjusted posttest scores showed significant decrease in trauma symptom scores at $p < .001$ for the treatment group on all TSI subscales except for sexual concerns, and showed significant decreases on the MPSS frequency scale: Anxiety, $F(1, 96) = 21.69$, $p < .001$, $\eta^2 = .18$; Depression, $F(1, 96) = 21.94$, $p < .001$, $\eta^2 = .19$; Anger/Irritability, $F(1, 96) = 25.98$, $p < .001$, $\eta^2 = .21$; Intrusive Experiences, $F(1, 96) = 25.30$, $p < .001$, $\eta^2 = .21$; Defensive Avoidance, $F(1, 96) = 17.84$, $p < .001$, $\eta^2 = .16$; Dissociation, $F(1, 96) = 13.83$, $p < .001$, $\eta^2 = .13$; Sexual Concerns, $F(1, 96) = 5.92$, $p = .017$, $\eta^2 = .06$; Impaired Self-Reference, $F(1, 96) = 12.97$, $p < .001$, $\eta^2 = .12$; Tension Reduction Behaviors, $F(1, 96) = 12.44$, $p < .001$, $\eta^2 = .12$; and MPSS frequency, $F(1, 142) = 16.51$, $p < .001$, $\eta^2 = .10$. These results indicate positive effects of the intervention on trauma symptoms for the treatment group, with most effect sizes being moderate to large (Cohen, 1988).

For two variables, TSI subscale Dysfunctional Sexual Behavior and MPSS Severity, the homogeneity of regression assumption for ANCOVA was violated. Instead, a repeated measures analysis of variance was conducted. For Dysfunctional Sexual Behavior, the time (pre, post) by group (treatment, control) interaction was statistically significant, $F(1.97) = 11.48$, $p = .001$, $\eta^2 = .10$, with a decrease in mean subscale score for the treatment but not for the control group. For MPSS Severity, the time by group interaction was also statistically significant, $F(1,143) = 24.17$, $p < .001$, $\eta^2 = .14$, again with a decrease in mean MPSS severity for the treatment but not the control group. (Figure 1 provides an example

Table 2.
Mean Change Scores for Treatment and Waitlist Control Groups

Measure	M	SD	*n*	*t*	*df*	*p*
TSI Subscale						
Anxious Arrousal						
Treatment Group	10.34	12.6	50	5.79	49	.001**
Control Group	1.02	10.1	49	.71	48	.48
Depression						
Treatment Group	12.14	11.9	50	7.24	49	.001**
Control Group	2.20	11.3	49	1.37	48	.18
Anger/Irritability						
Treatment Group	11.90	12.9	50	6.52	49	.001**
Control Group	.29	11.6	49	.17	48	.86
Intrusive Experiences						
Treatment Group	11.50	13.3	50	6.12	49	.001**
Control Group	.71	11.4	49	.44	48	.66
Defensive Avoidance						
Treatment Group	7.50	12.6	50	4.23	49	.001**
Control Group	-.39	8.0	49	-.34	48	.73
Dissociation						
Treatment Group	12.24	20.1	50	4.31	49	.001**
Control Group	1.65	14.0	49	.83	48	.41
Sexual Concerns						
Treatment Group	8.96	15.4	50	4.13	49	.001**
Control Group	1.49	9.8	49	1.06	48	.294
Dysfunctional Sexual Behavior						
Treatment Group	9.78	17.9	50	3.86	49	.001**
Control Group	.04	9.3	49	.03	48	.98
Impaired self-reference						
Treatment Group	10.20	13.7	50	5.25	49	.001**
Control Group	1.92	11.5	49	1.17	48	.25
Tension Reduction Behavior						
Treatment Group	10.68	13.7	50	4.82	49	.001**
Control Group	1.31	12.5	49	.73	48	.47
MPSS						
Frequency						
Treatment Group	10.00	14.6	71	5.79	70	.001**
Control Group	2.15	9.4	74	1.98	73	.052
Severity						
Treatment Group	18.13	20.8	71	7.35	70	.001**
Control Group	3.86	13.5	74	2.46	73	.016*
Sum						
Treatment Group	21.09	29.7	71	5.98	70	.001**
Control Goup	13.39	30.2	74	3.82	73	.017**

* indicates p <.05, ** p <.01 level of significance

of the pattern of scores, specifically for MPSS severity.)

The number of participants meeting the MPSS Sum of Frequency and Severity Scale cutoff score of 71 or above decreased significantly for the treatment group (from 71.8% to 39.4%, $z = 4.50$, $p < .01$), while the control group decreased slightly (from 66.2% to 54.1%, $z = .88$, $p > .05$). The waitlist control group decreased substantially after that group also received treatment (from 54.1% to 11.1%, $z = .51$, $p < .01$). At follow-up, 7.4% of cases in the original treatment group met the criterion for PTSD, a significant decline from posttest to follow-up ($z = 4.71$, $p < .01$), while 4.6% of the waitlist control group (who later received treatment) met the criterion, a non-significant decline from posttest to follow-up ($z = 1.02$, $p > .05$) as shown in Table 3.

Maintenance of Change at 2-Year Follow-Up

No differences statistically significant at $p < .01$ were found between post-treatment and 2-year follow-up for any TSI scale or for MPSS severity, frequency, or sum (Table 4). With the exception of TSI subscale defensive avoidance and MPSS severity and sum, all follow-up means were slightly lower than posttest means. For TSI defensive avoidance and MPSS severity and sum, follow-up means were slightly

Figure 1.
MPSS Severity Pre and Post

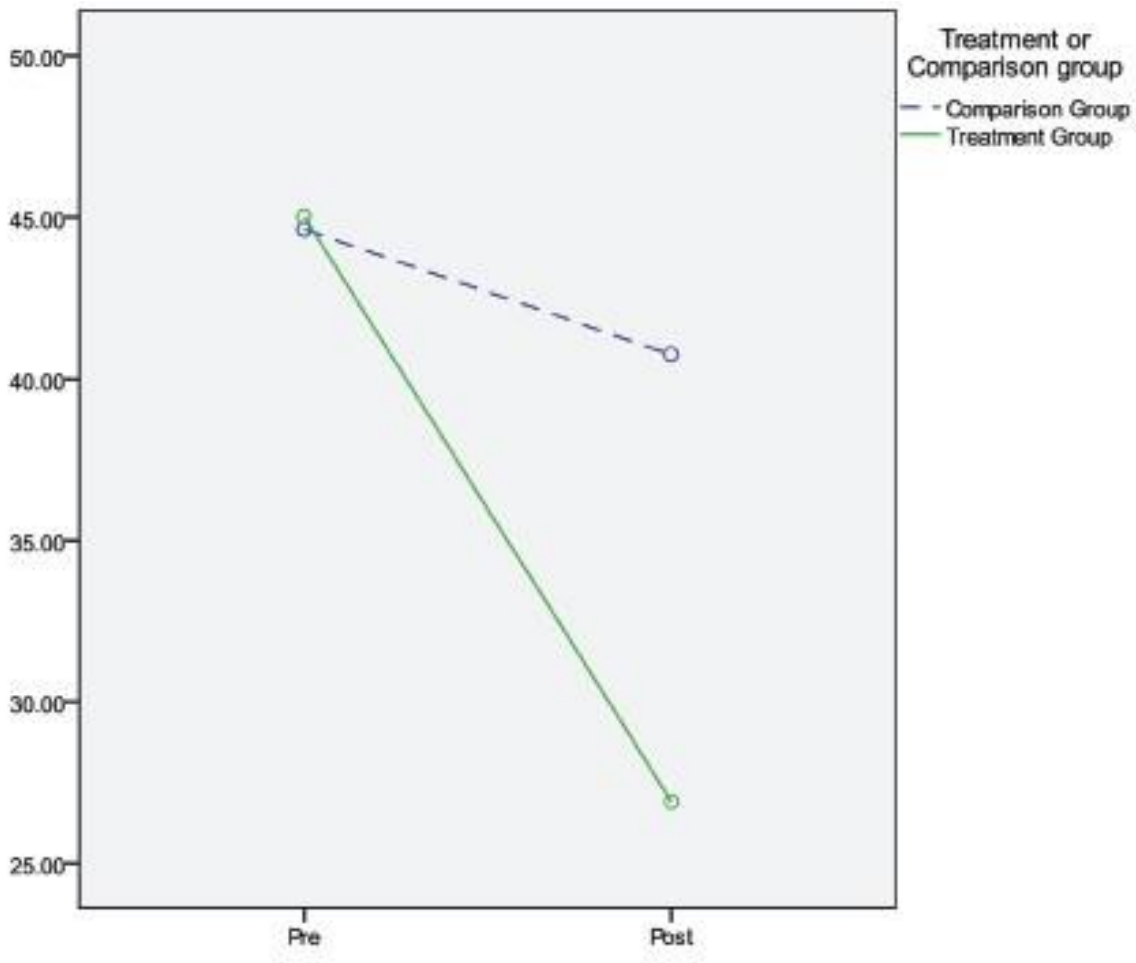

Table 3.
Proportion of Groups Exceeding MPSS Criterion for PTSD by Group by Time

	Pretest	Posttest	Posttest 2	Follow-Up
Treatment--%	71.8%	39.4%	-	7.4%
n	71	71	-	54
Control--%	66.2%	54.1%	11.1%	4.6%
n	74	74	36	34

Note: Posttest 2 was given to the original waitlist control group after TFT was provided to them.

higher than at posttest. Cases for TSI comparisons were those with consistent TSI data at posttest after treatment and on follow-up test.

RESULTS

Group Comparability

This preliminary study in field conditions, utilizing randomized assignment to immediate treatment, waitlist control, and subsequent treatment for the waitlist control suggests the potential of this treatment to reduce psychological symptoms following large-scale trauma.

Results suggest that TFT significantly reduces symptoms of anxiety, depression, anger/irritability, defensive avoidance, dissociation, impaired self-reference, and tension reduction behaviors, as well as the severity and frequency of PTSD symptoms. The proportion of participants meeting the criteria for PTSD in the treatment group was reduced by 32.4%, as measured on the MPSS by a single session of TFT after 7days. While it cannot be assumed that one session of TFT can resolve traumatic stress symptoms originating from such severe and long-standing circumstances, it appears that TFT can facilitate a reduction in symptoms in a short period of time, even when provided by newly trained community-leader therapists. Follow-up assessment over a 2-year time period suggests the durability of the outcomes, with positive results consistent with those found by Sakai and colleagues (2010).

Limitations and Recommendation for Further Research

This study did not compare TFT with traditional standard of care treatments, other nontraditional methods of treating PTSD, or placebo treatments. Also, despite efforts to encourage accurate reporting of symptoms at each testing, and the assurance of confidentiality of the responses, it is difficult to ascertain social desirability and measurement bias effects. The TSI subscale reliabilities ranged from weak (.66) to strong (.89), and there are possible cultural missteps of using standardized instruments with Rwandan war survivors, although the TSI has been used in prior research with Rwandan war survivors (Hagengimana, Hinton, Bird, Pollack,& Pitman, 2003; Pham, Weinstein, & Longman, 2004). The study population was limited to volunteers from one region of Rwanda who were informed of the study and had access to participate in this study. The outcomes may not be generalizable to all Rwandans or other war survivors. As with all transcultural research, little is known about the impact of persons from of western cultures training Rwandans to treat their own people and the resulting impact on the scores of the participants.

Despite these limitations, the results suggest the positive effects of this treatment and the possible sustained effects of this treatment over time. Future research recommendations include studies using a placebo treatment for the waitlist control group to determine placebo effect, replication of this randomized waitlist control group study with other trau-

Table 4.
Mean Change Scores (Post-Treatment – 2-Year Follow-Up)

Measure	M	SD	*df*	*t*	*p*
TSI Pretest					
Anxious Arrousal	3.58	12.05	64	2.35	.02
Depression	2.98	10.79	64	2.21	0.3
Anger/Irritability	.38	11.63	64	.26	.80
Intrusive Experiences	1.23	12.22	64	.81	.42
Defensive Avoidance	-.11	11.50	64	-.08	.94
Dissociation	3.55	16.06	64	1.77	.08
Sexual Concerns	1.89	11.41	64	1.33	.19
Dysfunctional Sexual Behavior	.50	10.46	64	.38	. 70
Impaired self-reference	2.88	11.70	64	1.97	.54
Tension Reduction Behavior	1.25	12.80	64	.78	.44
MPSS Pretest					
Frequency	.18	15.00	87	.11	.91
Severity	-.25	17.61	87	-.13	.89
Sum	-.07	31.01	87	-.02	.98

matized populations, and comparison studies with standard treatments of PTSD.

Recognizing that no one therapy works for everyone, latent growth modeling would be useful in identification of individuals for whom TFT was more and less effective. To best use this technique, data would be needed at more than three time points.

Clinical Implications

Prolonged and intense PTSD due to violence, victimization, and war is a problem throughout the world. Most communities that have undergone overwhelming experiences such as war or disasters lack the resources needed to provide mental health service access to all who may seek them. Findings from this study suggest that brief treatment using TFT could be effective in alleviating symptoms of trauma in survivors of the Rwandan genocide, and that treatment could be provided by local volunteers trained and supervised with this methodology. Findings also suggest that treatment effects could be maintained over time.

While it is desirable to utilize experienced mental health professionals in treating severe PTSD, the possibility of enlisting community leaders to treat fellow community members employing an efficacious, non-narrative therapeutic modality that does not require years of clinical training vastly enhances the potential mental health care resources in a community devastated by large-scale trauma. Both the brief treatment time required and the possibility of using local lay practitioners to provide the treatment hold promise for filling seemingly insurmountable gaps in available mental

health services. A model utilizing trained community leaders to deliver an effective and efficient trauma intervention would provide for on-going and broader-based relief for the survivors of massive trauma. Such a model would facilitate recovery on a wider scale and empower the community, as well as the individual survivors. This model of using TFT to address symptoms of trauma may be able to help fill some of the gaps in these services.

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