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Comparing a trauma focused and non trauma focused intervention with war affected Congolese youth: a preliminary randomised trial

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While there is broad consensus about the need for interventions to help psychologically distressed, war affected youth, there is also limited research and even less agreement on which interventions work best. Therefore, this paper presents a randomised trial of trauma focused, and non trauma focused, interventions with war affected Congolese youth. Fifty war affected Congolese youth, who had been exposed to multiple adverse life events, were randomly assigned to either a Trauma Focused Cognitive Behavioural Therapy group or a non trauma based psychosocial intervention (Child Friendly Spaces). Non clinically trained, Congolese facilitators ran both groups. A convenience sample, waiting list group was also formed. Using blind assessors, participants were individually interviewed at pre intervention, post intervention and a 6-month follow-up using self-report posttraumatic stress and internalising symptoms, conduct problems and pro social behaviour. Both treatment groups made statistically significant improvements, compared to the control group. Large, within subject, effect sizes were reported at both post intervention and follow-up. At the 6-month follow-up, only the Child Friendly Spaces group showed a significant decrease in pro social behaviour. The paper concludes that both trauma focused and non trauma focused interventions led to reductions in psychological distress in war affected youth.

Keywords: adolescents, Child Friendly Spaces, psychosocial intervention, the Democratic Republic of the Congo, Trauma Focused Cognitive Behavioural Therapy

[Trial Registry name: Clinical Trials.gov Identifier: NCT01509872.]

Introduction

In the field of mental health and psychosocial support (MHPSS) in humanitarian settings, major disagreement still persists about the focus of interventions (Tol et al., 2011). One of these disagreements is between advocates of trauma focused interventions and those who favour more psychosocial approaches (Miller & Rasmussen, 2010). This divide is compounded by a scarcity of studies of interventions within conflict and post conflict settings (Patel et al., 2007) that compares trauma focussed to non trauma focussed interventions.

Proponents of trauma focused interventions with youth who have been exposed to adverse life events believe that the primary focus of any intervention is to encourage them to talk about the traumatic event in detail and revisit the experience within a safe environment (Neuner et al., 2008). Trauma focused interventions frequently use pre and post measures to test for efficacy, and usually support a small number of young people via individual therapy that is often focussed on treating posttraumatic stress disorder (PTSD) (Tol et al., 2011).

In justifying this focus, proponents cite: empirical evidence of effectiveness from randomised trials (e.g. Ertl, Pfeffer & Schauer, 2011; Scheeringa et al., 2011); one meta analytic review, which concluded that trauma focused therapies are the only '*well established treatment*' for minors exposed to traumatic events (Silverman et al., 2008); best practice guidelines that state that

trauma focused interventions are the most effective treatment for PTSD and related difficulties in children (e.g. American Academy of Child and Adolescent Psychiatry, 1998); and the view that children from any culture are vulnerable to the symptoms described in the PTSD syndrome (Derluyn et al., 2004).

On the other hand, opponents of trauma focused interventions argue that: talking about past traumas within certain cultures can violate cultural beliefs (Honwana, 1997); trauma interventions categorise people's normal responses to extreme war experiences as pathological (Rabaia, Nguyen-Gillham & Giacaman, 2010); and trauma interventions underestimate the resilience of young people (Sommers, 2003).

However, recent randomised trials of interventions for war affected minors reflect a shift in both camps, with a new generation of *'group based'*, trauma focused interventions that combine a trauma focus with creative/expressive activities (e.g. Gelkopf & Berger, 2009; Jordans et al., 2010), and newly developed psychosocial interventions that use pre and post measures to test for efficacy (Gordon et al., 2008).

In addition to piloting new interventions, researchers have also compared specific trauma focused interventions with other active comparison interventions. Ertl et al. (2011) found that Narrative Exposure Therapy (NET: an individual, exposure based therapy) led to a larger reduction in PTSD symptoms among child soldiers in Uganda (Cohen's $d = 1.80$) (Cohen, 1988) than academic catch-up ($d = 0.83$) or waiting-list control group ($d = 0.81$). However, Catani et al. (2009) found no significant difference between a trauma based (NET) and a non trauma based (meditation/relaxation) intervention in reducing PTSD symptoms and impaired functioning in war affected, post tsunami, Sri Lankan youth. This is an important finding as it suggests that trauma based approaches (i.e. those that involve a child talking about traumatic events in great detail) may not be any more effective in reducing traumatic stress symptoms than culturally familiar activities that do not involve any direct processing of past traumas.

This study sought to examine this hypothesis by comparing an evidence based, trauma focused intervention (Trauma Focused Cognitive Behavioural Therapy (TF-CBT)) with an under researched; yet widely used (Tol et al., 2011) psychosocial intervention (Child Friendly Spaces (CFS)). The authors anticipated that the trauma based intervention would be superior in reducing posttraumatic stress and internalising symptoms, while the non trauma based intervention would be superior in reducing conduct problems and increasing pro social behaviour.

Background/context

The study occurred in the village of Mwenga, with approximately 10,000 inhabitants, located in the mineral rich region of South Kivu in the Democratic Republic of the Congo (DRC). It is about 120 km by road from the provincial city of Bukavu. These days, agriculture is the main income source. Mwenga is also a hub for food aid distribution, school feeding programmes and food-for-work programmes run by various international nongovernmental organisation (NGOs), in and around Mwenga territory.

During the 2009 Congolese army offensive against *Forces démocratiques de libération du Rwanda* (Democratic Forces for the Liberation of Rwanda, FDLR) rebels in the surrounding forests, approximately 70% of Mwenga's inhabitants were internally displaced, having fled to Mwenga from remote villages to avoid the fighting. Mwenga was also the scene of one of the worst atrocities in the Democratic Republic of the Congo's history: the burying alive of 13 women and two men accused of supporting a community based militia group in 1999 (Breackman, 2010).

Methodology

Trial design

This was a single centre, equal randomisation, single blind (outcome assessors), parallel group intervention.

Participants

Seventy-two (range: 8–17, mean age = 14.79) war affected minors participated in this study in October 2011 and April 2012. Eligibility criteria were broad: 1) aged over seven; 2) prior exposure to traumatic, war related violence; and 3) the ability to attend a nine session intervention. Fifty war affected children met the eligibility criteria (boys: 29, girls: 21, age range: 14–17, mean age: 14.88). All participants were recruited from a youth club run by the NGO Transcultural Psychosocial Organisation (TPO) and lived in, or near, the village Mwenga, DRC. Recruitment was by invitation and all those invited agreed to take part.

Procedure

Ethics. The lead author's university research ethics review board gave full ethical approval for this study. In addition, the protocol was approved by UNICEF (DRC) and the country director and partner coordinator of TPO (an NGO also working in the field of MHPSS for war affected populations in the eastern DRC) before informed verbal consent was sought from all participants in the study. All participants were also informed of their freedom to withdraw from the study at any time during the open information session held at the start of the study. Informed verbal consent of caregivers and parents was sought for all study participants. All data was held in a secure location for the duration of the intervention and questionnaires were destroyed once data was computerised. In addition, a local ethics board, comprising local assessors and intervention facilitators (formed at the intervention site), provided ethical and cultural advice throughout the study.

Translation. All measures used had already been translated, reviewed by a bilingual mental health professional, evaluated in a focus group with two comparable samples and pilot tested with youth in the DRC (McMullen et al, 2013; O'Callaghan et al., 2013), so no further translation occurred in this study. The only addition was that the measures were back translated prior to use to ensure translation was in keeping with the original version. Due to literacy difficulties, all questions were administered in the form of individual interviews.

Assessors. Five members of *Réseaux Communautaires pour la Protection de l'Enfance* (RECOPE, child protection community networks), a community based committee trained in child protection and psychosocial support, provided ethical and cultural advice on the study and, after receiving training, administered the questionnaires.

Randomisation and blinding. The lead author randomised eligible participants on their posttraumatic stress (PTS) score to either the TF-CBT group or the CFS group using a computer generated random sequence supplied by one of the research team off site (CS). Selection bias was reduced by ensuring that group allocation was concealed from those responsible for participant enrolment (RECOPE) and by ensuring that the person responsible for assigning the participants met none of them prior to the group allocation. The interviewers (outcome assessors) were blinded to the intervention allocation. This involved withholding the randomisation sequence from the interviewers, having no overlap between interviewers and intervention facilitators, and by ensuring no interviewers attended nor participated in any of the intervention sessions.

Facilitators. In keeping with previous studies (Ertl et al., 2011; McMullen et al., 2013; O'Callaghan et al., 2013) the interventions were run by indigenous non clinical facilitators. The TF-CBT intervention was

delivered by a teacher who had delivered three TF-CBT interventions with similar groups of youth in the DRC (McMullen et al., 2013; O'Callaghan et al., 2013) and assisted by two social workers from the funder, TPO. The CFS sessions were delivered by trained animators who lived in Mwenga. The project was overseen by the lead researcher, who remained on site for the study's duration and was available to support any participants who experienced distress during the study or intervention.

Measures

Posttraumatic stress symptoms. The severity of posttraumatic stress symptoms was assessed using the UCLA PTSD-RI (Reaction Index, revised version) (Pynoos & Steinberg, 2002) using interviews due to literacy difficulties. In the current study (n = 72) Cronbach's alpha (a measure of internal consistency calculated using the sample of 72 participants) was 0.771 for the Congolese Swahili version of the PTSD-RI. Due to concerns with cross cultural applicability of a PTSD diagnosis in a nonwestern population; this measure was used to record posttraumatic stress symptoms, but not to diagnose PTSD. (For comparison, however, 92% of participants reported scores of 38 or higher on the UCLA PTSD-RI, a cut-off point shown previously to have a sensitivity of 0.93 in detecting PTSD (Steinberg et al., 2004)).

Internalising symptoms, conduct problems and pro social behaviour. These were assessed using the *African Youth Psychosocial Assessment Instrument* (AYPA) (Bolton et al., 2007). This is the only African developed and validated instrument of psychosocial functioning and was developed in East Africa after qualitative consultation with youth, caregivers and mental health workers. Test/retest reliability of 0.852 (Pearson's Correlation) was found for the AYPA in a previous study with a comparable sample of Congolese youth (O'Callaghan et al., 2013). In the current study, Cronbach's alpha was found to be 0.844 (internalising symptoms); 0.788 (conduct) and 0.829 (pro social behaviour).

Adverse life events. A 39 item dichotomous questionnaire measured region specific adverse life events. This was based on a 23 item questionnaire used with a similar population of war affected youth in the DRC (McMullen et al., 2013), with additional items coming from interviews with participants who had worked in the mines or had been accused of witchcraft, and members of RECOPE who provided information on region specific adverse life events.

Interventions

Treatment format. Each intervention ran for nine sessions (three sessions per week) and each session was approximately 1.5 hours. At the end of the interventions both groups attended a graduation ceremony (session nine) with their caregivers. Parallel intervention sessions were held in the morning or afternoon. The sessions took place in a wooden hanger and under a tarpaulin tent set up in a field attached to a local school. To enhance treatment fidelity, both the TF-CBT and CFS facilitators received a minimum of six training sessions on how to deliver their particular interventions, members of both teams had all received prior '*in-the-field*' supervision while delivering their specific interventions, and all facilitators received manuals of their interventions in French, prior to commencing the study.

TF-CBT, (Cohen, Mannarino & Deblinger, 2006), is a component based intervention that combines cognitive therapy aimed at changing the way a person thinks, and behavioural therapy, which aims to change the way a person acts. It helps an individual come to terms with trauma through exposure to memories of the event (Bisson et al., 2013). This intervention contained eight modules: 1) introductions, ice breakers,

ground rules, psycho-education on trauma, normalising stress reactions, intrusive memories and establishing a safe place; 2) imagery, auditory and olfactory techniques to change pictures, sounds or smells of a traumatic event in the mind, dual attention tasks (e.g. knee tapping while thinking of traumatic events); 3) controlled breathing, progressive muscle relaxation, positive self-talk and sleep hygiene (i.e. sleeping well and at the proper times); 4) identifying, rating and productively expressing feelings; 5) the cognitive triangle, identifying and reframing unhelpful or inaccurate thoughts; 6) graded exposure, using taught techniques during an imagery exposure task, good and bad avoidance; 7) trauma processing via art work and individual sharing of narratives with a facilitator; and 8) challenging unhelpful and inaccurate cognitions via role play, exploring responsibility and advice giving to other youth in overcoming traumatic events. All sessions began with culturally familiar games and songs, and after each session, homework was set to practice the concepts learned that day.

CFS is a psychosocial intervention that improves resilience and wellbeing of youth through community based, structured activities held in a safe, child friendly environment (UNICEF, 2011). Unlike TF-CBT, CFS does not focus on processing past traumas or reframing inaccurate or unhelpful cognitions, but uses creative, expressive and discursive activities to learn about common dangers young people face and how to avoid them. The eight module intervention explored the following: 1) child protection, i.e. identifying specific risks in the village and how to avoid them, such as collecting firewood in groups, not accepting gifts or money from older men, etc.; 2) sexually transmitted diseases, including HIV/AIDS, how it affects people and how to avoid contracting it; 3) child rights under international and Congolese law, with particularly focus on child labour and the risks in working in nearby mining zones; 4) the *Tree of Life*, where participants draw a diagram of their own personal skills and resources (leaves) and people in their lives who can help them (trunk and branches) or have helped them (roots) achieve their goals; 5) the *Journey of Life*, which is a pictorial representation of challenges youth face in life (e.g. drug taking, sexually transmitted diseases, lack of school fees, unemployment, etc.) and how they can be overcome; 6) – 8) involved preparing and acting out a play on how to protect yourself as a young person from drug taking, violence and sexual abuse. Each session began with a warm-up song or traditional dance, and usually ended with a game of football. All sessions involved group discussion and the group was split along gender lines for the discussion on sexual health.

Caregiver sessions. Two 90 minute sessions took place for the caregivers of both the TF-CBT and the CFS intervention groups. These sessions briefly explained the two interventions being run, the psychological impact of war and violence on young people, how child rights can be better protected and respected, and how parents can improve communication and interaction with their children at home. The sessions were delivered by a panel and included the TF-CBT facilitators, and CFS animators, the lead researcher, social workers and religious and civil representatives.

Sample size

A previous randomised controlled trial (RCT) that compared a trauma therapy (NET) with academic catch-up (a non trauma based, psychosocial therapy) (Ertl et al., 2011) found a between treatment effect size (Cohen's d) of 0.72 for posttraumatic stress symptoms. At a power level of 0.80 (1-β err probability) it was calculated that the sample size per group, assuming equally sized groups, to be 25 per treatment group.

Data analysis

Baseline characteristics of the groups were compared using analysis of variance for all

continuous variables to examine the effects of randomisation. All participants interviewed at the start of the study were included in the outcome analysis i.e. post intervention and follow-up analysis was by intention-to-treat, using a last-observation-carried forward-procedure. This means that if a participant was unavailable for the post intervention follow-up, then their pre test score was used for the purposes of data analysis. Similarly, if a participant could not be located for the six month follow-up, then their post intervention score was used for statistical analysis. This method was used due to anticipated low attrition rates, as the improved security situation reduced the risk of migration or internal displacement during the intervention.

Analysis of covariance (ANCOVA) was chosen to compare the two interventions on all four outcome variables (posttraumatic stress, internalising symptoms, conduct and pro social behaviour). Following two previous treatment studies, we expected a decrease in symptoms from pre intervention to post intervention, and a further decrease in symptoms at follow-up. Consequently, a linear model was used.

Effect sizes were calculated by subtracting the post test and follow-up means from the pre intervention mean and dividing by the standard deviation of the mean differences. Bonferroni adjustment of significance levels was applied for multiple comparisons (Bonferroni-corrected significance level: 0.05/4 = 0.0125). Data analysis was carried out using SPSS for Windows, Release Version 18 (SPSS, Inc., 2009, Chicago, IL, www.spss.com).

Results

Baseline characteristics

Baseline characteristics of participants in the three groups are presented in Table 1. Randomisation resulted in no significant difference in age, number of traumatic events nor any pre intervention symptom scores.

Adverse life events

The number and percentage of participants in the intervention that witnessed or experienced the 39 adverse life events are presented in Table 2(a). The mean number of categories of traumatic events experienced was 19.74 events.

Table 1. Participant characteristics at trial baseline (n = 72)

	Mean (SD)				
Characteristic	TF-CBT (n = 26)	CFS (n = 24)	Control (n = 22)	F value	P value[a]
Age (years)	14.77 (1 58)	15.00 (1 64)	14.59 (2 52)	0.260	0.772
Number of traumatic events (n = 50)[a]	20.81 (5 13)	18.58 (6 30)		1.89	0.176
Posttraumatic stress	47.77 (6 61)	45.79 (6 87)	46.59 (7 93)	0.489	0.615
Depression and anxiety	45.08 (11 26)	44.83 (9 25)	43.41 (12 86)	0.150	0.861
Conduct symptoms	13.88 (6 89)	15.63 (6 54)	14.18 (7 01)	0.455	0.636
Pro social behaviour	21.18 (5 84)	22.96 (5 84)	24.09 (4 80)	1.014	0.368

[a] *One-way ANOVAs (95% confidence interval (CI)) measured baseline significance for continuous variables. TF-CBT = Trauma-Focused Cognitive Behavioural Therapy, CFS = Child Friendly Spaces, SD = standard deviation.*

Table 2. (a): Number and percentage of adverse life events for intervention participants (n = 50[a])

War events	TF-CBT (n = 26)	CFC (n = 24)	Daily stressors	TF-CBT (n = 26)	CFC (n = 24)
Gunshots or explosions	26 (100%)	24 (100%)	Lack of school fees	26 (100%)	22 (92%)
Looting	26 (100%)	24 (100%)	Serious illness	26 (100%)	22 (92%)
Burning houses or burnt houses	25 (98%)	23 (95%)	Lack of food/water at home	23 (88%)	19 (79%)
Seeing blood, body parts or corpses	24 (92%)	21 (88%)	Threats from another person	24 (92%)	17 (71%)
Murder or killings	20 (77%)	14 (58%)	Carrying heavy loads at home	19 (73%)	18 (75%)
Abduction by armed group	15 (58%)	16 (67%)	Insulted by others	18 (69%)	16 (67%)
People being buried alive	12 (46%)	9 (38%)	Being stigmatised or discriminated against by other villagers	16 (62%)	14 (58%)
Massacres	13 (50%)	5 (21%)	Going to bed hungry	18 (69%)	11 (46%)
			Inappropriate touch	15 (58%)	13 (54%)
Mining events			Dropping out of school to care for siblings	13 (50%)	13 (54%)
Breathing bad air in the mines	13 (50%)	8 (33%)	Parental neglect	15 (58%)	8 (33%)
Rebel attacks in the mines	10 (38%)	11 (46%)	Having to take on parental responsibility	13 (50%)	10 (42%)
Looting of property in the mines	11 (42%)	9 (38%)	Thrown out of the family home	10 (38%)	12 (50%)
Robbed or cheated out of wages	12 (46%)	8 (33%)	Parental death	7 (27%)	9 (38%)
Seeing people die in the mines	10 (38%)	10 (42%)	Parental fighting/domestic abuse	8 (31%)	8 (33%)
Carrying heavy loads in the mines	11 (42%)	8 (33%)	Accused of witchcraft and insulted	9 (35%)	6 (25%)
Cuts & bruises from accidents	10 (38%)	7 (29%)	Parental separation/divorce	10 (38%)	4 (17%)
Seeing witchcraft/sorcery	12 (46%)	5 (21%)	Being badly beaten at home	8 (31%)	6 (25%)
Breaking bones in an accident	7 (27%)	5 (21%)	Pregnancy	1 (4%)	4 (17%)
			Forced marriage	3 (12%)	2 (8%)
			Rape/sexual violence	2 (8%)	3 (13%)
			Burned with molten plastic or having pepper placed your into eyes	0 (0%)	2 (8%)

	Mean number of categories of traumatic events experienced is 19.74 events.	13.87	11.44

[a]The participants were asked if they had witnessed or experienced each of the 39 adverse life events above.

Table 2 (b): Single event selected as worst adverse life event for participants (n = 72)
Number (percentage)

Worst single event experienced by participants (n = 72)	N (%)
Lack of money to pay school fees	24 (33%)
Parental dead, separation, divorce or abandonment	10 (14%)
Life as a child miner	9 (12.5%)
Being stigmatised and accused of witchcraft	8 (11%)

Note: many of these events are interconnected and it was difficult for some participants to choose just one (e.g. parental separation often led to lack of school fees and child mining to pay for basic daily necessities).

Table 2(b) presents the single worst life event that each of the 72 participants in the study mentioned. This was an open question asked during the initial interview. A lack of money to pay for school fees was chosen as the worst life event experienced by participants.

Dropouts and missing data

As anticipated, the drop-out rate in this study was very low. Only one participant (in the control group) was unavailable for post intervention testing (he refused to take part) and one adolescent was unavailable at the six month follow-up (he had left the village to return home to his family in Burundi). Figure 1 presents a flow chart of participants through the study.

Within and between subject effects

Between subjects effects on all outcome variables are presented in Table 3, while Table 4 and Table 5 present the within subjects effects for all four outcome variables.

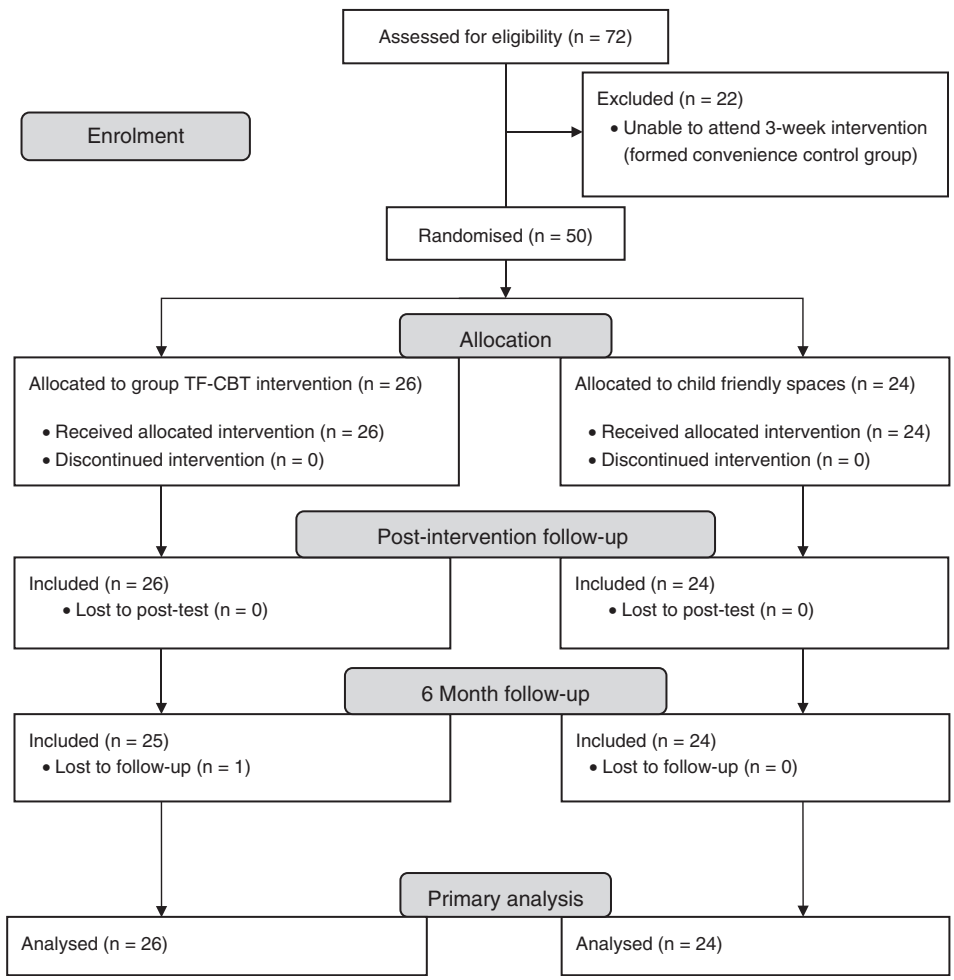

Figure 1: Flow of participants through the study.

Table 3. Comparisons of between subject effects at post intervention and follow-up on all variables

	TF-CBT intervention group (n = 26)		CFS intervention group (n = 24)	TF-CBT, CFS & Control group post intervention			TF-CBT and CFS Group follow-up		
Variable	Mean difference, standard error, significant with CFS	Mean difference, standard error, significant with control	Mean difference, standard error, significant with control	F[a] value (2,68)	P[b] value	Effect size (η_p^2)	F[a] value (1,47)	P[b] value	Effect Size (η_p^2)
Post traumatic stress	0.023 (2 54) 1.000	20.467 (2 59) 0.000	20.490 (2 63) 0.000	40.40	0.000	0.547	1.44	0.236	0.030
Depression and anxiety	2.375 (3 381) 1.000	17.273 (3 467) 0.000	19.6482 (3 53) 0.000	18.324	0.000	0.350	0.01	0.922	0.000
Conduct problems	0.334 (1 276) 1.000	6.068 (1 299) 0.000	5.734 (1 328) 0.000	13.294	0.000	0.281	0.736	0.395	0.015
Pro social behaviour	0.926 (1 157) 1.000	1.760 (1 197) 0.438	0.834 (1 206) 1.000	1.088	0.343	0.031	4.630	0.037	0.090

[a] *Based on analysis of covariance with pre intervention scores as covariates.*

[b] *Significance of the difference in post intervention scores between the three groups after the intervention. Note: with the exception of pro social behaviour, a negative difference signifies an improvement in mental health.*

Table 4. Mean Scores, T values, significance, and within treatment effect sizes (Cohen d) for all variables for the TF-CBT, CFS and Control groups at post intervention

	B/line (n = 26)	TF-CBT group (n = 26) post intervention			B/line (n = 24)	CFS group (n = 24) post intervention			B/line (n = 22)	Control group (n = 22) post intervention		
Measure	Mean (SD)	Mean (SD)	T[a] value	P value effect size[b]	Mean (SD)	Mean (SD)	T[a] value	P value effect size[b]	Mean (SD)	Mean (SD)	T[a] value	P value effect size[b]
Post traumatic stress	47.77 (6 62)	21.54 (10 13)	12.22	< 0.001	45.79 (6 87)	21.13 (6 95)	12.91	< 0.001	46.59 (7 93)	41.77 (9 39)	2.02	0.057
				d = 2.40				d = 2.63				d = 0.43
Depression and anxiety	45.08 (11 26)	19.04 (15 09)	8.18	< 0.001	44.83 (9 25)	16.63 (9 36)	9.94	< 0.001	43.41 (12 86)	36.05 (10 3)	2.30	< 0.05
				d = 1.60				d = 2.03				d = 0.48
Conduct problems	13.88 (6 89)	5.35 (4 20)	5.50	< 0.001	15.63 (6 54)	5.92 (4 41)	6.73	< 0.001	14.18 (7 01)	11.45 (5 06)	1.82	0.083
				d = 1.08				d = 1.37				d = 0.39
Pro social behaviour	21.81 (5 84)	22.35 (3 86)	−0.42	= 0.678	22.96 (5 84)	23.33 (4 16)	−0.26	= 0.798	24.09 (4 80)	24.23 (4 16)	−0.26	0.918
				d = 0.08				d = 0.06				d = 0.02

[a] *Based on paired samples t-test (95% CI) comparison with baseline scores for all participants.*

[b] *Effect size of treatment gains from baseline to post intervention. This was calculated by dividing the mean difference from the baseline to the post intervention scores by the standard deviation of the difference.*

B/line = Baseline.

Table 5 Mean scores, percentage change in mean scores, and within treatment effect sizes (Cohen d) for all variables for the TF-CBT and CFS interventions group at six month follow-up

	Base line (n = 24)	TF-CBT group (n = 26) six month follow-up			Base line (n = 26)	CFS group (n = 24) Six month follow-up		
Measure	Mean (SD)	Mean (SD)	T[a] value	P value effect size[b]	Mean (SD)	Mean (SD)	T[a] value	P value effect size[b]
Posttraumatic stress	47.77 (6 61)	18.42 (6 17)	19.46	< 0.001	45.79 (6 86)	15.88 (7 03)	15.08	< 0.001
				d = 3.81				d = 3.09
Depression and anxiety	45.08 (11 26)	12.77 (9 32)	14.23	< 0.001	44.83 (9 25)	12.46 (8 54)	14.95	< 0.001
				d = 2.79				d = 3.06
Conduct problems	13.88 (6 89)	4.35 (3 61)	7.41	< 0.001	15.63 (6 54)	5.71 (5 39)	6.16	< 0.001
				d = 1.45				d = 1.26
Pro social behaviour	21.81 (5 84)	21.42 (4 24)	0.305	= 0.763	22.96 (5 84)	18.75 (5 19)	2.93	= 0.007
				d = 0.06				d = 0.60

[a] *Based on paired samples t-test (95% CI) comparison with baseline scores for all participants.*

[b] *Effect size of treatment gains from baseline to post intervention. This was calculated by dividing the mean difference from the baseline to the post intervention scores by the standard deviation of the difference.*

Posttraumatic stress

An ANCOVA, with pre intervention PTS scores as a covariant, found a significant reduction in post intervention PTS symptoms ($F(2,68) = 40.40$; $P < 0.001$), but no difference between the two treatment groups at either post intervention or follow-up. The TF-CBT group (t (1, 25) $= 12.22$; $P < 0.001$) and the CFS group ($t(1,23) = 12.91$; $P < 0.001$) showed significant within subject post intervention ($d = 2.40$ (TF-CBT) and $d = 2.63$ (CFS)) and follow-up reductions ($d = 3.81$ (TF-CBT) and $d = 3.09$ (CFS)).

Internalising symptoms

An ANCOVA, with pre intervention internalising symptoms scores as a covariant, found a significant reduction in post intervention internalising symptoms ($F(2,68) = 18.324$; $P < 0.001$), but no difference between the two treatment groups at either post intervention or follow-up. The TF-CBT (t (1, 25) $= 8.18$; $P < 0.001$) and CFS group ($t(1,23) = 9.94$; $P < 0.001$) showed significant within subject post intervention ($d = 1.60$ (TF-CBT) and $d = 2.03$ (CFS)) and follow-up reductions ($d = 2.79$ (TF-CBT) and $d = 3.06$ (CFS)).

Conduct

An ANCOVA, with pre-intervention conduct scores as a covariant, found a significant reduction in post intervention conduct problems ($F(2,68) = 13.294$; $P < 0.001$), but no difference between the two treatment groups at either post intervention nor follow-up. The TF-CBT group (t (1, 25) $= 5.50$; $P < 0.001$) and the CFS group ($t(1,23) = 6.73$; $P < 0.001$) showed significant within subject post intervention ($d = 1.08$ (TF-CBT) and $d = 1.37$ (CFS)) and follow-up reductions ($d = 1.45$ (TF-CBT) and $d = 1.26$ (CFS)].

Pro social behaviour

An ANCOVA, with pre intervention differences in pro social behaviour as a covariant, found no significant reduction in conduct problems between any of the three groups at post test. At the six months follow-up, the CFS group had a significant reduction in pro social behaviour (i.e. pro social behaviour declined) when compared to the TF-CBT group ($F(1,47) = 4.63$; $P < 0.05$). The TF-CBT group and CFS group showed no significant pre to post intervention reductions, but the CFS group showed a significant within subject reduction in pro social behaviour, six months after the intervention ($t(1,23) = 2.93$; $P < 0.05$).

Discussion

The objective of this study was to examine whether a trauma focused or non trauma focused intervention resulted in a greater reduction in psychological distress and psychosocial difficulties. The authors had anticipated that a trauma focused intervention would be more successful in ameliorating mental health problems (e.g. posttraumatic stress, internalising symptoms) while a non trauma focused, general psychosocial intervention would lead to greater psychosocial benefits (e.g. an increase in pro social behaviour and a reduction in conduct problems). The study found, however, that both interventions were equally successful in reducing PTS and internalising symptoms and conduct problems. This is a finding in line with previous research that used randomised trials to compare two active treatment groups (e.g. Catani et al., 2009; Neuner et al., 2008; Newman et al., 2011).

This result may be linked to the fact that both interventions were group based and provided opportunities for self-expression and social support (Gordon et al., 2008), and both groups had similar expectancy of success (Newman & Fisher, 2010). Also, both interventions involved caregiver sessions on children's rights, improving relationships at home and alternatives to corporal punishment. A rare longitudinal study on childhood adversity and mental health in Afghanistan showed that caregiver violence

is a critical predictor of war affected children's mental health outcomes, independent of trauma exposure (Panter-Brick et al., 2011). Thus, by addressing caregiver violence in the community and proposing alternative behavioural management methods, systemic factors influencing youth mental health outcomes were targeted, which the authors suspected account for some of the positive outcomes in internalising symptoms recorded in this study.

What is not so clear is why there was no statistical improvement in pro social behaviour in either group at post intervention, or why the psychosocial intervention group actually showed a reduction in pro social behaviours in follow-up. Perhaps, pro social norms such as sharing food and listening to or respecting others are so culturally engrained that they are less likely to either decrease or increase in response to adverse life events or therapeutic interventions. Alternatively, perhaps as both groups has access to prior psychosocial support before this intervention, pro social behaviour was already operating at optimal levels. The decline in pro social behaviour in the psychosocial intervention group at follow-up is harder to explain, but the small difference found between the two groups at follow-up may be linked to regression to the mean, or the fact that as more variables are tested, the probability of finding statistical differences between the two groups increases.

When participants were asked about their most pressing concern, the majority stated a lack of money to pay for school fees, not past war experiences, as their greatest difficulty. This is significant given participant's exposure to numerous war stressors and high levels of reported psychopathology. Yet, despite this exposure, participants' perceived need concerned their future lives and not their past experiences. This finding demonstrates the importance of including the voice of participants in the design of research interventions, instead of deciding on behalf of participants what type of intervention is in their best interest. It also shows the importance of including educational and vocational training opportunities in interventions for war affected young people, and suggests that school sponsorship schemes or youth income generation projects should form part of any future interventions for this group.

This trial had some important limitations. Firstly, the control group was a convenience sample of young people originally screened, but unable to attend a nine session intervention. This population differed from the intervention groups on availability of leisure time and may have also had different levels of motivation, interest in seeking help and varying trauma exposure profiles. Secondly, the study lacked verification of self-reported symptoms. In the absence of caregiver or teacher reports, there was no way of comparing the young people's reports of their mental health and psychosocial functioning within the community. Finally, the study's small sample size prevented further post hoc analysis on the impact of social networks and social supports, or on the impact of previous psychosocial support on intervention efficacy, and therefore are fruitful areas of future research.

However, despite these limitations, this study had many strengths. Firstly, it is one of the very few studies to specifically compare a trauma and non trauma based intervention in the same study, using measures of both psychological distress and psychosocial functioning. As a result, it contributes to the academic and humanitarian evidence basis on effective interventions for war affected youth. A single blind randomised trial, with a convenient sample control group, was used and the study included culturally appropriate measures and a six month follow-up assessment. The study was also one of the few to rigorously evaluate the effectiveness of CFS, a much delivered, yet under researched intervention (Tol et al., 2011). In addition, by providing parallel parenting sessions, systemic family factors

were targeted that impact on the mental health of war affected children. The use of a local ethics board to offer cultural advice on the study's methodology increased the validity of the interventions. Also, training Congolese staff using a manualised intervention, increases the replicability and sustainability of the intervention with internet supervision, allowing this intervention to be delivered to other sites with other communities in the future.

Conclusions

In summary, this study has shown that a broad, non trauma focused psychosocial intervention can be just as effective as a specific, trauma focused intervention in relieving symptoms of trauma, internalising symptoms and conduct problems in a group of war affected adolescents. This is an important finding as it supports the Catani et al. (2009) finding that a non trauma based, psychosocial intervention, delivered by non clinical lay counsellors results in clinically significant reductions in psychological distress among war affected youth, without the need for '*trauma processing*' or '*exposure*' sessions. This finding suggests that mechanisms such as self-expression, social support, expectation of recovery and parental support may be more critical in reducing psychosocial distress than requiring participants to relieve and process very distressing past events during an intervention.

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