Trauma Treatment for Children in War

Build-up of an evidence-based

large-scale mental health intervention

in North-Eastern Sri Lanka

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Never doubt that a small group of thoughtful committed people can change the world. Indeed, it is the only thing that ever has.

Margaret Mead

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For you, the heroes, for your passionate struggle and infinite dedication. Know that nothing is ever in vain. It is the path of love and there is no other. Deep pain will be there and the fire of anger, utter helplessness and sadness as silent as tombs. Our weapon is presence that's all, unconditional presence, courage, vision, witnessing and at times radical acceptance. The roads are unknown but don't forget we are always together - never alone. We know that we have reached when there is freedom, peacefulness, joy and safety. To you, heroes of the here and now, the beautiful people, who work for this in so many places, hidden and open, punished and acknowledged. Be compassionate, especially to yourself.

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(*from here alphabetically*)

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SUMMARY

North-Eastern Sri Lanka is ravaged by war since more than two decades. The civilian population, adults and children alike, has suffered uncounted traumatic events, such as areal bombing, shelling, torture, killings, persecution, forced migration and many other adverse life circumstances that usually accompany armed conflict. The focus of this work is on the build-up of a population-based mental health structure for the most severely affected children. Based on prior epidemiological studies that our working group has carried out in Vanni, Vallikamam and Jaffna educational zones (C. Catani, Schauer, Onyut et al., 2005; Elbert et al., in press), which showed high scores of PTSD, Depression and Suicidality among school-aged, war-affected children, we suggested a 'Cascade model of school-based psychological care' to the Ministry of Education, Colombo and to the Education Council of Tamil Eelam. Based on this design, during the years 2002-2005 a large-scale implementation took place, whereby 150 teachers were trained as 'Master Counsellors' and 1500 as 'Befrienders'. A number of organisations and institutions worked together to make this happen: German Technical Cooperation (GTZ) Sri Lanka, Ministry of Education Basic Education Sector Program (Colombo & North-Eastern Provinces), Education Council of Tamil Eelam (Kilinochchi), Shantiham Centre for Health and Counselling (Jaffna), University of Jaffna and our Non-Governmental Organisation 'vivo'.

This thesis describes the psychological and psychiatric consequences of war on children, especially the development of Post-Traumatic Stress Disorder (PTSD) and its comorbidity, discusses the relevance and current controversy around project level interventions in war and crisis regions around the world, looks at options for individual treatment of child PTSD, including a detailed description of Narrative Exposure Therapy for Children (KIDNET) and finally describes the build-up of the cascade model structure, training- and material development as well as its scientific evaluation on site.

As a highest-level evaluation component and to proof the efficacy of this school-based service structure, we undertook a randomised controlled cluster dissemination trial in the framework of the overall assessment of this project; the first of its kind among war-affected stayee children worldwide. 47 children who suffered from severe PTSD (mean CAPS trauma symptoms score 65.5) and who had experienced a mean number of six different types of traumatic events, were randomly enrolled to receive six manualised treatment sessions of either KIDNET, a trauma-focussed, short-term therapy with exposure elements (M. Schauer, Neuner, & Elbert, 2005; M Ruf et al., 2007), or MED, a locally designed meditation/relaxation protocol from 'within the culture'. 14 of the prior trained Master Counsellors were randomly assigned to a treatment procedure and 3-4 child patients each. No dropout occurred, all children completed treatment.

Results show a highly significant reduction of CAPS trauma symptoms ($F(1,38)=57.9$; $p<.0001$) for both treatments at time point 5-months post-test. The effect size for treatment KIDNET was established as 1.57 and for MED as 1.23 at 5-months post-test. At time point pre-test 29.5 percent of the children also presented with Major Depression (M.I.N.I A). There was no significant gender difference. A reduction of M.I.N.I. depression symptoms after treatment at 5-months post-test took place in both groups, however not yet

significant. A highly significant change was observed for improvement in overall Functioning (CAPS functioning score) ($F(1,41)=46.1$; $p<.0001$) for both treatment types; again no significant gender effect.

The evaluation showed that counsellors were significantly able to detect children who needed further help and had not recovered: in respect to PTSD symptoms ($F(1,40) = 6.6$; $p<.014$) and depression symptoms ($F(1,41) = 5.25$; $p<.05$). For ethical and educational reasons we allowed a reversal (cross-over) of treatment protocol after completion of 5-months post-test, if teacher counsellors felt that the particular child had not benefited enough from the initial treatment. This was true for 38 percent of children who had been offered MED and 10 percent of children from the KIDNET group. New traumatic events and ongoing domestic violence slowed down recovery for some children, however did not eliminate beneficial treatment effects measured as CAPS trauma symptom score, Depression score, Suicidality and overall Functioning. The observed level of ongoing Domestic Violence of 23 percent in our sample was extremely high and the individual experiences severe. The affected children reported beatings, intentional burnings, fixation with rope, being starved and long time isolation. In fact between the first diagnostic interview and the 5-months post-test children had experienced on average 1.6 new traumatic events related to domestic violence.

At time point follow-up (13-months post treatment) three groups remained for analysis: KIDNET (only), MED (only) and MED (first) + KIDNET (later). Analysis revealed a highly significant overall treatment effect ($F(2,34) = 56.34$, $p<.0001$). The children who had shown a significant trauma symptom reduction at 5-months remained stable and a significant reduction of trauma symptoms became especially obvious for the previous MED group, who had additionally received a full KIDNET therapy. Overall six children remained with a diagnosis of PTSD at last follow-up. A similarly powerful treatment effect overall at 13 months could be observed looking at the depression score in all treatment groups ($F(1,35) = 5.35$; $p<.007$). Of the 29.5 percent children with Major Depression, only 5 percent remained with a diagnosis at time point follow-up. Also the repeated ANOVA calculation of CAPS functioning score across time mirrors the sustained success of the treatment intervention at 13-months follow-up ($F(2,35) = 37.80$; $p<.0001$).

Additionally to PTSD, Depression and impaired functioning, we observed a high overall suicide risk current (M.I.N.I. B) in our child sample at time point pre-test of 27 percent. There was no significant gender difference. However suicide symptoms remitted parallel to the reduction of CAPS trauma symptoms ($F(1,37) = 35.5$; $p<.0001$). Similarly there was a highly significant reduction of suicide risk in relation to improvement of CAPS functioning score ($F(2,76) = 24.6$; $p<.0001$). We also see a correlation between depression symptoms and suicide risk; those in the group 'suicide risk current' score higher on the depression scale and vice versa. However also this interaction significantly looses strength. In other words, also the moderate to high suicide risk current group benefits significantly from treatment. In light of the outcomes of this study, it seems therefore not justified to withhold trauma treatment from children with PTSD who also score high on suicidality current at time point enrolment.

As a selected functioning measure, we looked at influence of treatment on school grades. Even though not statistically significant ($F(4,36) = 1.61$; $p<.19$) we observe a positive interaction in children who have received KIDNET at any given point in terms of improvement in school grades languages (Tamil and English). There is no effect on subjects Sports, Science and Arts. A more in-depth analysis shows that once gender is entered as a variable, and only girls remain in the sample, a significant change in Tamil/English school grades depending on type of treatment can be established ($F(2,33) = 5.16$; $p<.011$). KIDNET (only) children improve 9.3 percent, MED (first) + KIDNET (later) children improve 16.1 percent and MED (only) children worsen by 15.2 percent. The affected boys perform poorly overall in school. More research is needed to understand the impact of PTSD on cognitive functioning in war-affected children.

Even in this special group of children with a full PTSD diagnosis, we can find a building block effect of trauma (number of traumatic event types experienced and selected key indicators) with physical diseases, mean functioning impairment, number of CAPS trauma symptoms, number of key events CAPS, number of M.I.N.I. depression symptoms, mean suicide risk current. Successful treatment was able to reverse this building block. It is important to note that those children who had started on a severe trauma score, took more time to recover. This indicates that long-term follow-up of at least 12-months post-test is important to measure exact treatment benefits. We are encouraged to postulate that systematic 'unloading' of traumatic life experiences might prevent the build-up of a traumatic stress load that leads to the development of PTSD in children.

Since all of the children suffered from chronic PTSD at time pre-test, and since a significant remission of depression symptoms was achieved through treatment, parallel with remission of symptoms of PTSD, we assume a direct relationship of depression and PTSD symptoms rather than between depression and exposure to traumatic events in children. Also new traumatic events did not disturb the remission of depression symptoms.

The children in our sample showed severe Functioning impairment at time point pre-test and later significant recovery, in respect to CAPS trauma, M.I.N.I. depression and M.I.N.I suicide risk current symptom reduction. Therefore we cannot support the often-summoned notion of high resilience and adequate levels of functioning among war affected children in spite of PTSD.

In summary, this study shows that teachers who were trained in the framework of this project as counsellors, were successfully able to apply a trauma-focussed, short-term treatment with exposure elements in form of KIDNET as well as a structured Meditation/Relaxation protocol. School emerged as an effective and efficient place for screening and service provision. KIDNET proved equally effective to the locally composed Meditation/Relaxation protocol from 'within the culture'. None of these active treatments had any harmful effect. The sustained and significant effect of the Meditation/Relaxation protocol suggests for it to be a valuable rehabilitation intervention, which might be most effectively applied in group-settings, especially if large numbers of people are in crisis. We postulate key effectiveness for resource-challenged public mental health interventions in crisis regions, if local lay counsellors are trained to apply this structured Meditation/Relaxation protocol for the benefit of the entire affected population, e.g. all children in a school/classroom setting, then screen for remaining severely affected children after 5 months and add-on trauma-focussed therapy, such as KIDNET in individual sessions, where needed.

In the advent of such efficacious, methodologically sound, culturally accepted and disseminable trauma treatment approaches, as Narrative Exposure Therapy and a structured, local best-practice protocol on Meditation/Relaxation, the controversy around 'mental health' versus 'social', 'psychosocial' or 'economic' assistance reverses. Our described intervention proofs the possibility of the build-up of a large-scale population-based service structure in a resource-poor war setting and demonstrates the cross-cultural applicability and successful integration of Western short-term psychotherapeutic approaches; highlighting important questions concerning resource inputs and cost efficiency. Issues of prioritization, which have so far played a key role in humanitarian assistance after conflict and disaster, and common debate themes, around economic in favour of psychological recovery should be viewed in light of these new developments in the field. We postulate that evidence-based public mental health assistance is a humanitarian and ethical first order imperative, given newly emerging science related to current public mental health approaches; especially the involvement of local expert and lay personnel in systematic screening of affected populations, stratification of interventions on the basis of assessment, provision of trauma-focussed and other possibly local, scientifically evaluated best-practice interventions as well as monitoring of course of recovery, within a community-based, comprehensive disaster/war recovery program.

Public mental health interventions in or after war must at their core further the implementation of the UN Convention of the Right of the Child (CRC) especially in relation to child health, adequate care, education and protection from abuse and violence and not any longer withhold evidence-based treatment from those who need it most.

Important research themes that remain to be addressed for children in war: the concept of diagnosing PTSD in children; pre-existing conditions and their relationship to the development of PTSD under conditions of war; how to effectively reduce the 'building block' of trauma; the interplay of depression, grief and trauma symptoms in children; protective factors in a community that foster children's resilience; the contribution of school in mediating trauma symptoms in children; dismantling studies that test active ingredients of compound interventions, especially in group settings; effects of parental factors on child symptoms, at any age; identification of needs of children who were exposed but remain asymptomatic; cost-effectiveness of different approaches in resource-poor settings, especially short-term and group-based modules. Most importantly expert and public awareness must be raised on the interplay of war and the disconcerting high levels of domestic violence.

ZUSAMMENFASSUNG

Nord-Ost Sri Lanka wird seit mehr als zwei Jahrzehnten von bewaffneten Konflikten heimgesucht. Die Zivilbevölkerung, Kinder und Erwachsene, sind ständiger Bedrohung und traumatischem Stress durch Bombardierungen, Granatenhagel, Folter, Verfolgung, erzwungener Migration and einer Vielzahl anderer kriegsbedingter Stressoren ausgesetzt. Die vorliegende Arbeit beschreibt den Aufbau einer Mental Health Versorgungsstruktur für die am schwersten betroffenen Kinder im Nord-Osten dieser Region. Frühere epidemiologische Studien unserer Arbeitgruppe in den Sri Lankesischen Gebieten Vanni, Vallikamam und Jaffna (C. Catani, Schauer, Onyut et al., 2005; Elbert et al., in press) wiesen hohe Belastungsraten an PTBS, Depression und Suizidalität unter den dort heimischen Schulkindern auf. Auf Anfrage des Bildungsministeriums erarbeiteten wir die Planung eines ‘Kaskadenmodells’ für die psychologische Versorgung belasteter Kinder innerhalb des Schulsystems. Mit Einwilligung und Unterstützung des Ministry of Education in Colombo und den Provinzen Nord und Ost, als auch des ‘Education Council of Tamil Eelam’, wurden in den Jahren 2002-2005 150 LehrerInnen zu ‘Master Counselorn’ (psychologischen BeratungslehrerInnen) und 1500 LehrerInnen zu sogenannten ‘Befrienders’ (sozial unterstützenden Kräften) ausgebildet. Eine Reihe von Institutionen und Organisationen waren am Aufbau beteiligt: GTZ (Gesellschaft für Technische Zusammenarbeit) Sri Lanka, Ministry of Education Sri Lanka, Education Council of Tamil Eelam, Shantiham Centre for Health and Counselling, University of Jaffna und unsere Nicht-Regierungsorganisation ‘vivo’.

Diese Dissertation beschreibt psychologische und psychiatrische Konsequenzen von Kriegserfahrungen auf Kinder, im Besonderen die Entwicklung von Posttraumatischer Belastungsstörung (PTBS) und deren Komorbiditäten; weiterhin wird die Relevanz und der gegenwärtige Stand der Kontroverse um Projektimplementierung zur psychologischen Rehabilitation von Betroffenen in Kriegs- und Krisengebieten diskutiert; Optionen individueller Traumatherapie werden betrachtet, einschliesslich einer detaillierten Beschreibung der Narrativen Expositionstherapie für Kinder (KIDNET) und schliesslich der Aufbau des schulbasierten Kaskadenmodells, der Trainings- und Lehreinheiten als auch deren wissenschaftliche Evaluation.

Als anspruchsvollste Evaluationskomponente wird die wissenschaftliche Wirksamkeit und Effektivität des Modells anhand einer randomisiert kontrollierten Cluster-Disseminations-Behandlungsstudie dargestellt; die erste ihrer Art für Kinder die noch im Konfliktgebiet leben. 47 unter schwerer PTBS leidende Kinder (CAPS Mittelwert 65.5 Punkte), die im Durchschnitt sechs verschiedener traumatischer Stressortypen ausgesetzt waren, wurden randomisiert in die Behandlungsstudie aufgenommen und erhielten entweder sechs Sitzungen KIDNET (Narrative Expositionstherapie für Kinder), eine trauma-fokussierte Kurzzeittherapie mit Expositionselementen (M. Schauer, Neuner, & Elbert, 2005; M Ruf et al., 2007) oder sechs Sitzungen eines lokal erarbeiteten, kulturtypischen Meditations- und Relaxationsprotokolls (MED). 14 Master Counsellor wurden randomisiert je einer Behandlungsmethode und 3-4 Kindern zugeteilt. Es gab keine ‘Drop-outs’, alle Kinder beendeten die Behandlung.

Die Analyse der Daten zeigt eine hoch signifikante Reduktion von CAPS Trauma Symptomen ($F(1,38) = 57.9$; $p<.0001$) für beide Therapiemethoden zum 5 Monats-Post-Test Zeitpunkt. Die Effektstärke der KIDNET lag zu diesem Zeitpunkt bei 1,57 und die der MED bei 1,23. Zum Zeitpunkt der Ersterhebung wurde für 29,5 Prozent der aufgenommenen Kinder eine Majore Depression diagnostiziert (M.I.N.I. A). Die Depressionssymptome hatten zum Zeitpunkt des 5-Monatstests in beiden Gruppen abgenommen, jedoch noch nicht signifikant. Hochsignifikant war dagegen bereits die Verbesserung des Funktionsniveaus gemessen mit CAPS-CA ($F(1,41) = 46.1$; $p<.05$) Es gab keine signifikanten Geschlechtsunterschiede.

Die Evaluation zum 5-Monatszeitpunkt zeigte weiterhin, dass die Master Counsellor sehr gut in der Lage waren Kinder mit verbleibenden psychiatrischen Problemen, PTBS ($F(1,40) = 6.6$; $p<.014$) oder Depression $F(1,41 = 5.25$; $p<.05$) zu erkennen. Aus ethischen und ausbildungstechnischen Gründen befürworteten wir eine umgekehrte Verabreichung der Behandlungsprotokolls (cross-over), falls Master Counsellor zum 5-Monatszeitpunkt zu der Überzeugung gelangten, dass ein bestimmtes Kind noch nicht ausreichend vom Therapieangebot profitiert hatte. Es stellte sich heraus, dass das für 38 Prozent der Kinder aus der MED Gruppe und 10 Prozent der Kinder aus der KIDNET Gruppe der Fall war. Wir stellten zu diesem Zeitpunkt auch fest, dass seit Ende der Behandlung neu hinzugekommene traumatische Erlebnisse und anhaltende häusliche Gewalt den Behandlungserfolg für manche der Kinder verlangsamten, im Bezug auf die Reduktion der CAPS Trauma-Symptome, Depressionssymptome, Suizidalität und des Funktionsniveaus aber nicht aufhoben. Fast ein Viertel der Kinder (23%) litten unter häuslicher Gewalt und die Erfahrungen der Kinder von denen sie berichteten waren schwerwiegend, u.a. Geschlagenwerden mit Objekten, absichtliches Brennen, Fixierung mit einem Seil, Hunger erleiden muessen und Eingesperrt werden über längere Zeit. Zwischen dem ersten diagnostischen Interview und dem 5-Monatsmesszeitpunkt berichteten die Kinder im Mittel immer noch 1,6 neue traumatische Erfahrungen von häuslicher Gewalt.

Zum Zeitpunkt der letzten Nachuntersuchung (13 Monate nach Behandlungsende) verblieben drei Gruppen zur statistischen Auswertung: 1) die reine KIDNET Gruppe; 2) die reine MED Gruppe und 3) die Gruppe der Kinder, die zuerst MED und danach ein volles KIDNET Protokoll erhalten hatten. Die Analyse zeigte einen hochsignifikanten Gesamtbehandlungserfolg ($F(2,34) = 56.34$; $p<.0001$). Die erfolgreich mit KIDNET und MED behandelten Kinder waren über den Zeitraum stabil geblieben, und besonders die Gruppe der Kinder, die auf MED nicht angesprochen hatte, zeigte nun einen dramatischen Rückgang der Traumasymptome nach der Behandlung mit KIDNET. Zu diesem letzten Messzeitpunkt wurden noch sechs der behandelten Kinder mit einer PTSD diagnostiziert. Ein ähnlich starker Gesamtbehandlungserfolg war in allen drei Gruppen ($F(2,35) = 5.35$; $p<.007$) für den Rückgang der Depressionssymptomatik nachzuweisen. Von den Anfangs 29,5 Prozent Kinder mit einer Majoren Depression waren nur noch 5 Prozent verblieben. Auch das CAPS Functioning Resultat zeigt den signifikanten Therapieerfolg ($F(2,35) = 37.80$; $p<.0001$) zum 13 Monatszeitpunkt.

Zusätzlich zu PTBS, Depression und Funktionsbeeinträchtigung wurde zu Behandlungsbeginn auch ein hoher Prozentsatz von insgesamt 27 Prozent als suizidal eingestuft (Suidicide Risk Current (M.I.N.I. B)). Es gab dabei keinen signifikanten Geschlechtsunterschied. Die Remission des Suizidalitätsrisikos geht signifikant parallel mit dem Rückgang der CAPS Traumasymptome zum 13 Monatsmesszeitpunkt einher ($F(1,37) = 35.5$; $p<.0001$). Es wurde ebenfalls eine signifikante Reduktion der Suizidalität (Suicide Risk Current) in Bezug auf die Funktionsfähigkeit gemessen mit CAPS sichtbar ($F(2,76) = 24.6$; $p<.0001$). Weiterhin fanden wir eine Korrelation zwischen Depressionssymptomen und Suizidalitätsrisiko: Kinder die in die Gruppe 'Suicide Risk Current' fallen, haben auch höhere Depressionswerte und umgekehrt; auch diese Wechselwirkung zeigt eine signifikante Abnahme nach Therapie. In anderen Worten, auch die Gruppe der als suizidal diagnostizierten Kinder (moderate bis hohe Symptomwerte) zum Zeitpunkt 'Prätest' profitiert signifikant von der Behandlung. Im Lichte dieses Ergebnisses, scheint es nicht rechtfertigbar Kindern mit PTBS und Suizidalität Psychotherapie vorzuenthalten.

Als zusätzliches Funktionsmaß wurde der Einfluss der Behandlung auf die Schulnoten hinzugezogen. Wenn auch nicht statistisch signifikant ($F(4,36) = 1.61$; $p<.19$) so ergibt sich zum 13-Monatsmesszeitpunkt eine positive Interaktion bei Kindern die KIDNET erhalten hatten in Bezug auf Verbesserung der Schulnoten in den Sprachen Tamil und Englisch. Die Fächer Sport, Naturwissenschaften und Kunst zeigen keinen Behandlungseffekt. Eine noch genauere Analyse zeigt, dass die Variable Geschlecht Einfluss hat. Betrachtet man nur die verbleibenden Mädchen in der Gruppe, dann wird eine signifikante Verbesserung der Schulnoten in den Fächern Tamil und Englisch sichtbar ($F(2,33) = 5.16$; $p<.011$). Die Mädchen die nur KIDNET erhalten hatten, verbesserten sich zum 13 Monatsmesszeitpunkt um 9,3 Prozent, die die erst MED und dann KIDNET erhalten hatten um 19,1 Prozent und die die nur MED erhalten hatten verschlechterten sich um 15,2 Prozent. Die belasteten Jungen zeigten schwache Schulleistungen in allen Fächern. Der Forschungsbedarf um den Zusammenhang PTBS und Kognitives Funktionsniveau in vom Krieg betroffenen Kindern verbleibt hoch.

Auch in dieser mit 100 Prozent PTBS belasteten Stichprobe zeigt sich ein 'Building Block' Effekt (Anzahl der traumatischen Erlebnisse und deren Auswirkung auf ausgesuchte Indikatoren) mit den Variablen körperliche Erkrankungen, dem Mittelwert der Funktionsbeeinträchtigung, Anzahl der CAPS Traumasymptome, Anzahl von Key CAPS Erlebnissen, Anzahl der M.I.N.I. Depressionssymptome und Mittelwert der gegenwärtigen Suizidalität. Nachdem die erfolgreiche Therapie in der Lage war die Gesamtsymptomatik in unserer Stichprobe zu reduzieren, schlussfolgern wir, dass womöglich generell eine Verbesserung der psychischen Gesundheit, durch systematisches, therapeutisches Verarbeiten von traumatischen Lebenserfahrungen zur Prävention der Entwicklung einer PTBS in Kindern beiträgt. Auffallend war der langsamere, aber dennoch kontinuierliche Abfall des 'Building Blocks' für die am schwersten mit CAPS Traumasymptomen betroffenen Kinder. Der erst zum 13-Monatsmesszeitpunkt starke Effekt der Nivelierung der Kurve, weist auf die Wichtigkeit von langfristigen Nachuntersuchungen hin.

Dadurch, dass die Mehrzahl der Kinder beim ersten Messzeitpunkt an chronischer PTBS litt und nachdem die Behandlung zu einer Remission der Depressionssymptome führte, nehmen wir eine direktere Beziehung zwischen Depression und PTBS Symptome als zwischen Depression und traumatischen Erfahrungen bei Kindern an. Auch neue traumatische Erfahrungen nach Ende der Therapie scheinen die Remission der Depressionssymptome nicht zu unterbinden. Die Kinder in unserer Stichprobe zeigten schwere Funktionsbeeinträchtigungen zum Zeitpunkt des Erstinterviews und später signifikante Erholung im Bezug auf CAPS Trauma, M.I.N.I. Depression A und M.I.N.I. Suizidalität B

Symptomatik. Diese Daten widersprechen der oft zitierten These der Belastbarkeit (Resilience) von Kindern in Kriegsgebieten und deren adäquates Funktionsniveau trotz PTBS.

In Zusammenfassung zeigt diese Studie, dass LehrerInnen die in unserem Projekt ausgebildet wurden, in der Lage waren eine trauma-fokussierte Kurzzeittherapieform mit Expositionselementen in Form von KIDNET als auch ein strukturiertes Meditations-/Relaxationsprotokoll erfolgreich anzuwenden. Die Institution Schule zeigte sich als effizienter und effektiver Ort für die Erkennung und Behandlung psychisch erkrankter Kinder in diesem Kriegsgebiet. Aus den Befunden lässt sich extrapolieren, dass die Wirksamkeit der MED Behandlung gewinnbringend im Hinblick auf vermutete gleichstarke Effekte in Gruppensettings eingesetzt werden könnte. Dies ist besonders wichtig wenn grosse Zahlen von Kindern auf Behandlung angewiesen sind, wie in Kriegs- oder Krisengebieten. Wir würden vermuten, dass unter diesen Bedingungen die grösste Effizienz und Effektivität dann erreicht werden könnte, wenn zunächst trainierte lokale Counsellor das strukturierte MED Protokoll den, von traumatischem Stress Betroffenen, als Gruppenintervention in Krisengebieten anbieten könnten, z.B. im Klassenzimmerverband von Schulen. Um dann, nach 5 Monaten eine Nachuntersuchung durchzuführen, wobei die noch belasteten Kinder identifiziert werden könnten, um ihnen wenn nötig noch eine individuelle KIDNET Kurzzeittherapie anzubieten.

Im Zeitalter solch wirksamer, methodologisch sauberer, kulturell akzeptierter und disseminierbarer Traumatherapien wie KIDNET und das lokale MED Protokoll, muss die Debatte um ‘best-practice’ Interventionen in Kriegsgebieten klar zugunsten des Aufbaus von ‚Public Mental Health’-Strukturen ausfallen. Unsere Intervention zeigt die Machbarkeit des Aufbaus eines grossangelegten Versorgungssystems in einem ressourcenarmen Kriegsgebiet und demonstriert ferner die erfolgreiche Einbindung von westlich-psychotherapeutischen Ansätzen in die Versorgung. Evidenzbasierte Interventionen im Bereich ‚Public Mental Health’ stellen sowohl aus humanitärer, als auch aus ethischer Sicht inzwischen einen Imperativ dar. Besonders die Einbindung lokaler Fachkräfte und trainierter Laien in systematische Erkennung (Screening) von betroffenen Populationen, Ausrichtung der Interventionen an den Ergebnissen epidemiologischer Daten, Anbieten von trauma-fokussierten und bevorzugt auch lokalen, aber nach wissenschaftlichen Erkenntnissen evidenzbasierten psychotherapeutischen Behandlungsmodellen, inklusive der Überwachung des Symptomverlaufs, innerhalb eines gemeindezentrierten, umfassenden Nachkriegsrehabilitationsprograms, ist von grosser Bedeutung.

Darüberhinaus müssen Public Mental Health Programme in (Nach-) Kriegsgebieten der Implementierung der UN Kinderrechtskonvention (CRC) Rechnung tragen, besonders im Bezug auf das Recht aller Kinder auf Gesundheit, Fürsorge, Bildung und Schutz vor Missbrauch und Gewalt. Evidenzbasierte Behandlungsmethoden dürfen nicht länger von Kindern in Not ferngehalten werden.

Als wichtige Forschungsthemen in Bezug auf Kinder im Krieg verbleiben damit:
die Diagnose der PTBS; der Zusammenhang zwischen gesundheitlicher, psychischer Vorbelastung und der Entwicklung einer PTBS nach Kriegserfahrung; effektive Reduktion des Trauma ‘Building Blocks’; das Zusammenspiel von Depression, Trauer und Traumasymptomen bei Kindern; Identifikation protektiver Faktoren der Resilienzförderung; die Rolle der Schule in der Mediation von Traumasymptomen von belasteten Kindern; Studien, die wirksame Bestandteile von Traumatherapien, auch in Gruppensettings nachweisen können; der Beitrag

der Eltern zur Traumasymptomentwicklung in verschiedenen Altersstufen und Kulurgruppen; Identifikation von Unterstützungsmassnahmen für Kinder, welche Kriegstraumata ausgesetzt waren, aber asymptomatisch blieben; Kosten-Nutzen Vergleichsrechnungen verschiedener Versorgungsansätze in ressourcenarmen Krisengebieten, speziell von Kurzzeit- und gruppenbasierten Modulen. Und schliesslich die dringende Aufklärung der Bevölkerung über den engen Zusammenhang von Krieg und wachsender häuslicher Gewalt.

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1. BACKGROUND ON SRI LANKA

1.1. THE CURRENT SITUATION

In Sri Lanka history is repeating itself. Violence has once again started rising on the island since December 2005, undermining a 2002 truce. Revenge killings, suicide bombings, airplane bombardments, forced recruitment of children as soldiers, claymore and landmine explosions and other forms of organised violence and conflict have returned. In only a few months almost 6000 people, mainly civilians have lost their lives. A local psychiatrist from Jaffna writes on August 18, 2006:

> "Yes, there is a huge humanitarian crisis in the Jaffna peninsula in general and in the pockets of intense fighting in particular. The security forces are not allowing local people to get away from their place when they feel it is no more safe in that area. Even access to take care of the injured and sick was denied in many instances. There is a severe shortage of food, milk powder and medicines. Curfew has been imposed for many days with few hours of release..." (Sivayokan, 2006)

A ceasefire that had been in place since December 2001, allowing for peace negotiations between the government and the Liberation Tigers of Tamil Eelam (LTTE) is under threat again. Peace exists only on paper.

Traumatic experiences related to war were common in Sri Lanka's North-Eastern provinces prior to the newly awakened conflict and prior to the tsunami disaster in 2004. The background and history of this war has been described extensively (D J Somasundaram, 1998). For two decades, 1983 to 2002, conflict and violence have killed people by the tens of thousands[1] and displaced hundreds of thousands more on the island. The conflict is marked by gross human right violations and by violations of the laws of war on both sides, Government as well as the Liberation Tigers of Tamil Eelam - LTTE (Human Rights Watch, 2006). The LTTE has been fighting for independence for minority Tamils since the 1970s, resulting in areas of permanent conflict in the North and East of the country, as well as acts of organised violence, in the capital Colombo and other Southern target areas. Over 20 years

[1] current estimate is 60.000 and more (Human Rights Watch, 2006)

civilians have been casualties of war; landmines and unexploded ordnance posed a constant threat[2]; hospitals and schools have been destroyed; the economy has been shattered. Some estimates say that the government has spent up to 5 percent of the Gross Domestic Product (GDP) on defence in recent years (BBC, 2006) and this in a country were one in three children under the age of five is underweight, were 46 percent of children in the Northern-East are malnourished, were 23 percent of the population lives below the official poverty line and a quarter of the population has no access to safe drinking water among other poverty indicators (World Bank, 2006).

Over decades, the war prompted nearly one quarter of Sri Lanka's Tamils to leave the country, many fleeing government abuses, creating a Tamil Diaspora that now numbers approximately 800,000 worldwide; established mainly in Canada and the UK, but also other Western countries (Human Rights Watch, 2006).

At the same time, the conflict has resulted in periodic mass displacement of the population within the country. The total displacement exceeds 1 million persons, mainly on the side of the island's Tamil Hindu minority population of the Northern-East and the Muslim population of the East, but to a small percentage also the Sinhalese, mainly Buddhist ethnic group of the South West[3]. Because of their geographical concentration in areas were most of the fighting takes place, the Tamil population has experienced by far the greatest displacement. According to most recent available data, a census of all displaced people in Sri Lanka, conducted by the Ministry of Rehabilitation, Resettlement and Refugees in 2002, 81 percent of the displaced population is Tamil, 14 percent Muslim, and 5 percent Sinhalese (Amnesty International, 2006b). Generally, Sinhalese have fled from Tamil majority areas and now reside in Sinhalese majority areas. Many Tamil displaced persons found themselves in Sinhalese controlled border regions in so-called 'Welfare Centres' along the conflict's border areas, in overcrowded camps with very poor living conditions, restriction of movement, constant insecurity and lack of job opportunities. Return to the homeland in the recent past up to 2001 was hampered by landmines, and in many instances by the total destruction of

[2] there are an estimated 1.8 mio unexploded landmines in the North – a per capita incidence comparable to Angola (BECARE, 2003)

[3] out of 19,4 million Sri Lankans, 18,1% are Tamils; 7% are Muslims and 75,6% are Sinhalese. (Auswärtiges Amt, 2006)

villages and the agricultural infrastructure. Then in the years 2001-2005 a constant return had started, with returnees slowly picking up their lives in their home areas once again.

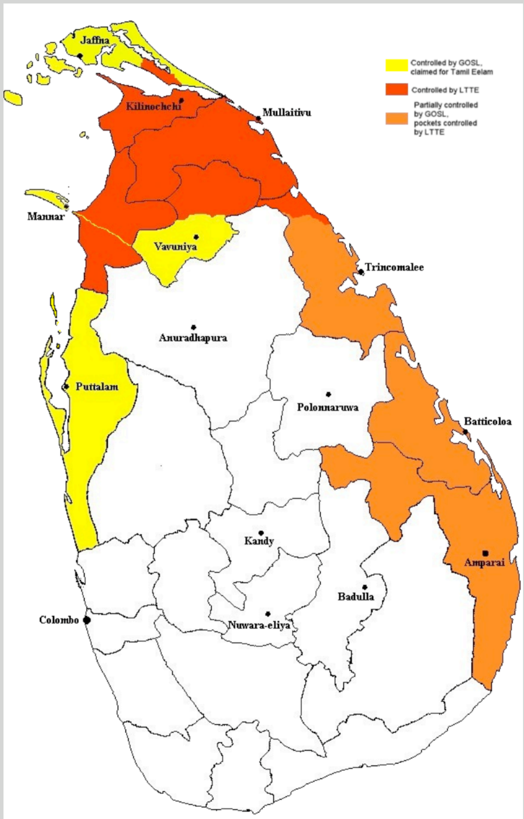

Fig. 1 Sri Lanka's North-Eastern Provinces under LTTE control

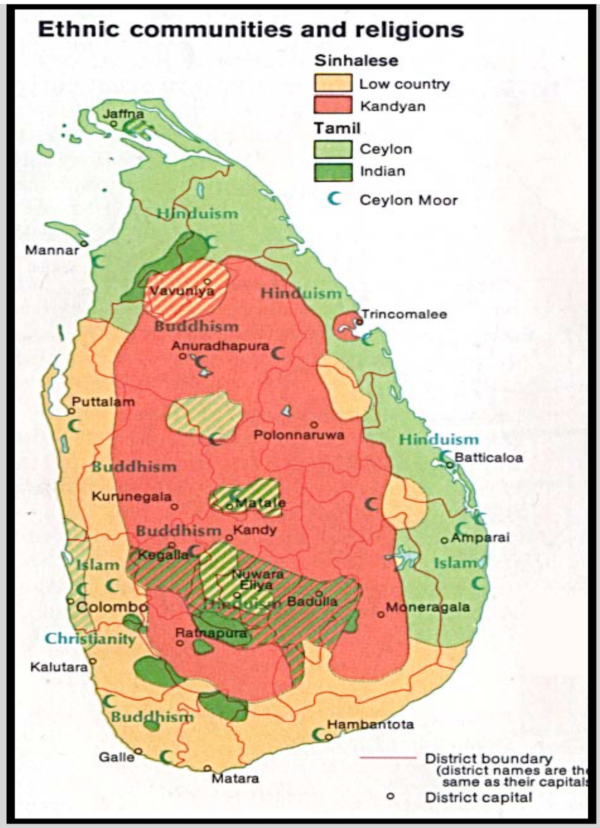

Fig. 2 Sri Lanka's Ethnic and religious communities: Sinhalese=yellow/red; Tamil=green

Now, since early 2006 thousands of Tamil civilians are on the run again. A total of 39,883 people have been displaced in the north and east of Sri Lanka only since the beginning of 2006 to mid-year, according to UN figures (Amnesty International, 2006b). As insecurity increases, people who have already been displaced several times are being forced to move yet again. Many have been unable to return home for decades and the increase in military activity is a major barrier preventing them from resettling and rebuilding their lives. Many of those displaced, including those living in organized camps, continue to be vulnerable to violence and harassment by the Tamil Tigers, members of the Sri Lankan security forces and other armed groups. Parts of the Tamil population are trying to escape from the North of the island by boat, crossing into the state of Tamil Nadu in India. Mannar, the closest point to the island's neighbour, has become a transit point for slipping under cover of darkness into India. The trip is treacherous and dangerous. The boats are small fishing vessels, which should carry no more than 10 people, but the smugglers, keen to maximise profits, overload constantly. Tamil civilians have only two options currently. Go to an area controlled by the LTTE or flee the country. Both are happening. According to UN reports 3500 civilians (by mid-year 2006), mainly families with small children, hoping to provide a safer future for their loved ones, have already left the country across the waters to India (BBC, 2006). Others are leaving Jaffna Peninsula by the hundreds for the LTTE controlled areas of Vanni, as they fear the country is returning to a full scale war (Amnesty International, 2006a).

Additionally, aside the decade old man-made conflict, a devastating natural catastrophe struck the island on December 26, 2004. A giant tidal wave –tsunami- caused by an underwater earthquake in the Indian Ocean, lead to an unprecedented disaster in Indonesia, Thailand, India and Sri Lanka. In Sri Lanka, the flood reached widespread regions in all directions, however 60 percent of casualties and damage was suffered once again by the North-Eastern coastal population (Auswärtiges Amt, 2006). Thirty-thousand persons lost their lives and hundreds of thousands of inhabitants of these regions were forced to flee from their homes to provisional refugee camps or to the homes of relatives. The government declared a national disaster. The tsunami only underlined the ethnic, cultural and socio-political divisions that already pre-existed. When 3 billion USD in tsunami aid was offered by the international community, conditions for the implementation of the relief operations among Sinhalese, Tamils and Muslims could not be found. Reconstruction of the Tsunami affected coastal areas remains one of the major disputed issues of the conflict parties and impedes development aid up to today (Auswärtiges Amt, 2006). The deteriorating security situation drastically effected aid and relief operations to those displaced by the tsunami and conflict and left the local population without hope of returning to their homes. Latest UN figures state that 314,378 people are displaced by the conflict and around 325,000 people are estimated to remain displaced by the tsunami (UNHCR, 2006).

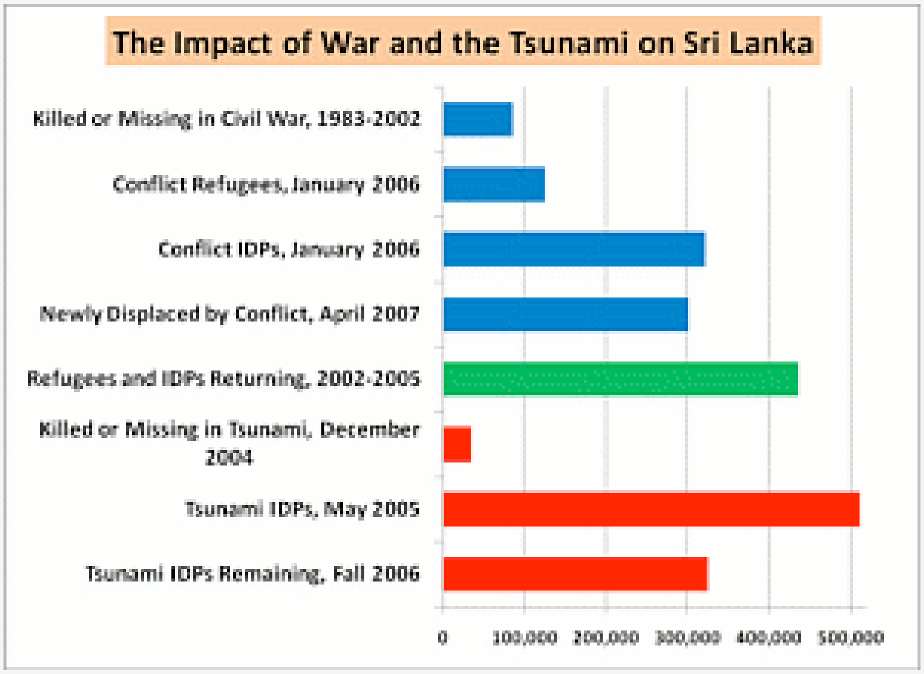

Fig. 3 (Renner, 2007)

1.2. The Island's history of armed conflict

The struggle between Tamils and the majority Sinhalese is a modern feature of political life in Sri Lanka. The pre-colonial era was marked by the rule of local kingdoms in Kotte, Kandy (both Sinhalese Buddhist) and Jaffna (Hindu and Tamil). South Indian kings invaded and dominated the country from time to time along with periods of intense commercial and cultural interactions. In fact many Sinhalese castes derive from South Indian immigrants who actually assumed Sinhala Buddhist identity.

There is also a sizable population of Tamils in the Central Province, descendants of plantation labourers from India imported by the British colonial authorities in the nineteenth century. These 'Indian Tamils', as they are called, still work mainly in Sri Lanka's tea plantations. (Refugee International, 2004) They have been locked in poverty for generations and continue to experience poor living conditions (Makenthiran, 2004). Originally, they were the chief targets of Sinhala nationalism. Many were deprived of their citizenship in the late

1940s, and there were repeated attempts to repatriate them to India. Although they speak the same language, they are usually considered a separate community from the Sri Lankan Tamils of the North and East.

Under the British rule (1796-1948) a number of developments took place, which might have had a key influence on the Tamil-Sinhalese relationship. Over time the North-Eastern provinces of Sri Lanka were disproportionately better educated by the colonials and Sri Lankan Tamils ended up in higher numbers in positions of power be it in the civil service, or fields of medicine and law in post-independence Sri Lanka. Tamils seemed to have benefited from favouritism throughout the colonial era and there is widespread agreement among historians that the roots of the conflict stem from a "divide and rule" policy adopted by the British Raj during their occupation of Sri Lanka. (Blaut, 1993)

A key incident in Sri Lankan politics was the Sinhala Only Act of 1956 (Peace Secretariat of LTTE, 2006; SCOOPP - Gov Sec for Coordinating the Peace Process, 2006), which made Sinhalese the sole official language, restricted many government jobs to Sinhala speakers, and made changes in university admissions policies, which reduced the number of Tamils getting higher education. Although this policy was later changed to give equal status to Tamil as a national language, it created a rift between the two ethnic groups by undermining the confidence that Tamil people had in the Sinhalese.

In the decades after independence, Tamil politicians pushed for a federal system through the Tamil Federal Party. The concept of a separate nation - Tamil Eelam[i] - was proposed by the Tamil United Liberation Front (TULF) in 1976. In July 1983, a deadly attack on the military in the north by Tamil groups sparked riots in Colombo, the capital, and elsewhere. Between 1.000 to 3.000 Tamils were killed ("Black July Pogrom") and many more fled Sinhalese-majority areas. More than 90 percent of Tamil-owned shops and businesses were destroyed. Evidence suggested that these riots have been planned in advance and also point towards government collusion. Many observers identify this incident as the trigger for the war. (Genocide, 2006; Human Rights Watch, 2006)

Initially there were a vast number of resistance groups. The LTTE's position, adopted from the Palestine Liberation Organisation (PLO) was however that there should be only one. Over time the LTTE merged with or largely exterminated almost all the other militant Tamil groups.

In April 1987, the conflict exploded with ferocity, as both the government forces and the LTTE fighters engaged each other in a series of bloody operations. In July 1987, the LTTE carried out their first suicide attack: "Captain Miller" of the Black Tigers[ii] drove a small truck with explosives through the wall of a fortified Sri Lankan army camp, reportedly killing more than forty soldiers. (Balasingham, 2004; TIME Magazine, 2006)

India became involved in the 1980s for a number of reasons in the conflict – its leaders' desire to project India as the regional power in the area, worries about India's own Tamils seeking independence, and a genuine concern for the Sri Lankan Tamils' plight. On July 29, 1987 the Indo-Sri Lanka Peace Accord was signed by Indian Prime Minister Rajiv Gandhi and Sri Lankan President Jayewardene. The Indian Peace Keeping Force (IPKF) was formed, and initially oversaw a cease-fire and modest disarmament of militant groups. Few of the concessions agreed to in the Indo-Sri Lankan agreement however were implemented. When the LTTE refused to disarm its fighters, the IPKF tried to demobilize them by force and ended up in full-scale conflict with the Tamils they had come to protect. Indian troops were accused of human rights abuses in the north and soon met stiff opposition from the Tamils. Simultaneously, nationalist sentiment led many Sinhalese to oppose the continued Indian presence. This led to the Sri Lankan government's call for India to quit the island, however, the LTTE and IPKF continued to have frequent hostilities, and only as casualties mounted India pulled out its troops eventually in March 1990. On 21st May 1991, Rajiv Gandhi, who had been responsible as Prime Minister for the placement of IPKF in Sri Lanka, was assassinated by the woman suicide bomber Thenmuli Rajaratnam, today known to be an LTTE member and a personal victim of the IPKF terror.

Since the early 90s India's support to Sri Lanka has largely dropped. Even though its central government has been firmly against the LTTE, they do still speak up for Tamils' rights. (Rajasingham, 2001) A significant peace movement also developed in the 1990s, with many organisations holding peace camps, conferences, trainings and peace meditations, and many other efforts to bridge the two sides at all levels.

The LTTE took significant parts of the north as the IPKF withdrew, and established many government-like functions in the areas under its control. Armed conflict continued on both sides, with the Sri Lankan Army aiming to bring Jaffna under their control. In May 1993 a suicide bomber killed Sri Lankan President Ranasinghe Premadasa. The LTTE's victory was followed by a defeat as the new government of 1994 elections pursued a 'war for peace' and retook Jaffna. Up to this day LTTE manages to control the land route up North, but was never able to regain Jaffna under its control. In the years that followed, government forces often attacked civilian buildings such as temples, churches and schools in a bid to stem the growing resistance. These had been safe havens for Tamil civilians fleeing the air raids and their destruction resulted in a high amount of civilian casualties. (ICRC, 1995) In return LTTE suicide and time bombs exploded numerous times in populated city areas and public transport, killing hundreds of civilians. In January 1996, the LTTE carried out their deadliest suicide bomb attack, at the Central bank in Colombo, killing 90 and injuring 1,400. In October 1997 they bombed the Sri Lankan World Trade Center and in January 1998, detonated a truck bomb in Kandy, damaging the Temple of the Tooth, one of the holiest Buddhist shrines in the world. In response to this bombing, the Sri Lankan government outlawed the LTTE and with some success pressed other governments around the world to do the same, significantly interfering with their fund-raising activities. In 1999 the LTTE intensified its attacks on the Sri Lankan armed forces in an attempt to liberate and consolidate territory. Thousands were killed and President Chandrika Kumaratunga lost one eye and suffered other injuries at an LTTE attack. The rebels also advanced north towards Elephant Pass and Jaffna. The LTTE was successful in cutting all land and sea supply lines of the Sri Lankan armed forces in the town of Kilinochchi and surrounding areas. On April 22, 2000 the Elephant Pass military complex, which had separated the Jaffna peninsula from the Vanni mainland for 17 years, completely fell in the hands of the LTTE and in July 2001 LTTE destroyed 8 air force planes and 4 Sri Lankan Airlines, thereby causing great destruction to the tourism industry and the hope for a military solution of the conflict. (BBC, 2000, 2001)

In 2001, under international pressure, the LTTE began to declare their willingness to explore measures that would safeguard Tamils' rights and autonomy as part of Sri Lanka, and announced a unilateral ceasefire just before Christmas 2001. In parliamentary elections toward the end of the year, the United National Front (UNF) came to power on a peace platform. Norway was and is mediating, and, together with the other Nordic countries, it also monitors the ceasefire through the Sri Lanka Monitoring Mission. (SLMM, 2004)

During parliamentary elections in 2004, LTTE commander Colonel Karuna of Batticaloa-Ampara split from the group's main leadership, claiming insufficient resources and power were being given to Tamils of the eastern part of the island. The LTTE officially sacked him, small-scale violence erupted, and tensions were extremely high. After the election, brief fighting south of Trincomalee led to a rapid retreat and capitulation of the Karuna group, their leaders eventually fleeing to Colombo. It has been suspected that Muslim politicians and Government have been involved in Karuna's escape and support, aiming to weaken the rebel movement.

Until 2005, the ceasefire between the LTTE and the government largely held. In his annual address in November 2005 however, the LTTE leader Velupillai Prabhakaran, stated that the Tigers would "renew their struggle" in 2006 if the government did not take serious moves toward peace. Violence escalated in December 2005 and continued throughout 2006 and 2007.

1.3. VIOLENCE AND HUMAN RIGHTS VIOLATIONS AS A PSYCHOLOGICAL FORCE

Organised violence including war, torture, rape, forceful recruitment of children as soldiers and other severe human rights violations, has been inflicted on Sri Lanka's civilian population, adults and children alike in the past two decades, by various sources of perpetration, including the Sri Lankan Army, the Indian Peace Keeping Force (IPKF), the LTTE and other paramilitaries. Hoole, a member of the 'University Teachers for Human Rights Jaffna' wrote in relation to the Indian Army attack on Jaffna peninsula in 1987:

> "Throughout history, the cost of war in terms of deaths, mutilation, torture, grief, destruction of material resources, privation, social disorganisation and psychological trauma, has been enormous and, in recent times, war has become increasingly costly and ever more destructive...We have now been living under the long shadow of the gun for more than a decade and a half, holding hope against hope for the survival of our children who are dominated by violence from all directions without a purpose or meaning. But, on the other hand, we also note the glazed faces of people accepting it all with a sense of resignation...the community is bereft of all its human potential. Every 'sane' person is fleeing this burning country - its hospitals have no doctors, its universities no teachers, its crumbled war-torn buildings cannot be rebuilt because there are no engineers or masons or even a labour force, its families are headed by

> women, and the old, the sick, and the weary die without even the family to mourn or sons to bury the dead." (Hoole, Somasundaram, Sritharan, & Thiranagama, 1992)

In order to comprehend the meaning of organised violence for the individual and the societies involved, it is important to be aware of the political and economic context of wars and human rights violations (Neuner, 2003). Even though modern warfare clearly aims at maximising its devastating psychological impact on the enemy civil population, war[iii], armed conflict[iv] and organised violence[v] are not, first of all psychological problems.

> "Civilians are no longer 'incidental' casualties but the direct targets of violence. Mass terror becomes a deliberate strategy. Destruction of schools, houses, religious buildings, fields and crops as well as torture, rape and interment, become commonplace. Modern warfare is concerned not only to destroy life, but also ways of life. It targets social and cultural institutions and deliberately aims to undermine the means whereby people endure and recover from the suffering of war…A key element of modern political violence is the creation of states of terror to penetrate entire fabric of economic, sociocultural and political relations as a means of social control." (P. J. Bracken & Petty, 1998)

With its characteristic features, the Sri Lankan civil war is a conflict, at times mounting to an intra state war, which fits the category of a "New War" (Kaldor, 1999): rebel forces[4] (LTTE and other splinter groups) are fighting the government in the South to achieve independence and control over the North-Eastern Tamil provinces of the island; the conflict has seen intense periods of armed fighting, including the intervention of foreign armies (India) on the side of the Sri Lankan government; it is long-lasting and the clear difference between peace and war time has dissipated, so has a clear separation between civilians and fighters; furthermore this long-term conflict caused an enormous weakening of Sri Lankan state institutions. Beyond the creation of 800,000 refugees and asylum seekers and more than 1 million internally displaced persons (IDP), this war has affected the local population in many ways. Children have been recruited from among the civil population as soldiers on both sides, mainly however by the LTTE (Human Rights Watch, 2006). Other characteristics of 'New Wars', such as gaining power over the civil population by frightening the population and expelling opponent groups (such as house searches, public killing, extra judicial executions,

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[4] Under the UK Home Office Terrorism Act 2000 the LTTE is officially declared a rebel organisation since October 2005: "The LTTE is a terrorist group fighting for a separate Tamil state in the North and East of Sri Lanka. This terrorist organisation is currently proscribed under UK legislation, and therefore outlawed in the UK."(UK Government, 2005)

prolonged detentions without trial, disappearances, destruction of religious structures); systematic atrocities (e.g. bombardments, massacres, torture while in detention, gang rapes, forced evictions of the entire Muslim population of the North); making regions uninhabitable (e.g. mining of rice fields, cutting of coconut palms) have been widely practiced in Sri Lanka over the past 25 years mainly on the side of the government troops and those fighting for them e.g. IPKF, but also on the side of the LTTE militants.(Human Rights Watch, 2006; D J Somasundaram, 2007).

On a collective, societal level a long, violent war shatters the population's basic assumptions, as Somasundaram explains:

> "Another important casualty in this war has been the implicit faith in the world order and justice in particular. The overriding experience of Tamils has been a discriminatory system and injustice. Those responsible for what may be called war crimes and the worst types of human rights abuses have never been punished. The few cases of massacres, disappearances, torture, rape, custodial killings, mass graves that have been investigated and brought to light have not resulted in justice being done. Impunity prevails. Much of the violence has become structural and systemized into the very laws of the country such as the Emergency Regulations and Prevention of Terrorism Act. Though perpetrators have been identified, and in some rare cases arrested and court cases instituted, none have been sentenced or punished. The perpetrators are promoted or transferred elsewhere. In the case of abuse and injustices committed by the Tamil militants, there is no social mechanism for redress; the victims usually have to bear it in silence, a silence that is often individual as well as collective." (D J Somasundaram, 2007)

May be this was part of the reason of why in early eighties a new and highly psychological phenomenon of warfare emerged in the Sri Lankan conflict, the application of suicide bombing. The LTTE would commit individuals to carry explosive charges concealed on their bodies or at times on vehicles and order detonation at assigned times and places. The Tamil Tigers are believed to have carried out more than 200 of such suicide bombings (some sources say 270), mainly attacking military targets, but also political rivals, journalists and human rights activists, wounding and killing innocent civilians alongside (Human Rights Watch, 2006). They are thought to be "unequivocally the most effective and brutal terrorist organization ever to utilize suicide terrorism"(Schweitzer, 2000). Its suicide unit, the 'Black Tigers' is comprised of both men and women. Unlike fundamentalist Islamic terror groups, where women have never been allowed to take part in any activities, women play an important role in the LTTE's most extremist modus operandi. They participated in about 40 percent of the group's overall suicide activities so far. Another characteristic unique to the LTTE is the fact that every member of the group carries a cyanide capsule around his/her neck, which he or she must consume upon capture in order not to disclose the group's secrets. In the absence of political or religious group ideology, the 'Black Tiger' unit is seen as a pseudo-ideology of self-sacrificial 'dying to kill' (Gunawardena, 2005):

> "The LTTE suicide units are essentially an extension of the organization's general culture of supreme martyrdom." (Sprinzak, 2000)

On 27th of November the first LTTE cadre 'Shanka' was killed in action and up to today is celebrated at the LTTE 'Hero's Day', by which the LTTE's leader Prabhakaran formally institutionalised hero worshipping.

Modern suicide terrorism[vi] is aimed at causing devastating physical damage, through which it inflicts profound fear and anxiety. Its goal is to produce a negative psychological effect on an entire population rather than just the victims of the actual attack. The relatively high number of casualties guaranteed in such attacks, which are usually carried out in crowded areas, ensures full media coverage. Thus, suicide terrorism ranks with other spectacular modus operandi (such as blowing up airplanes in mid air or the use of Weapons of Mass Destruction) as a sure means to win maximum effect. (Schweitzer, 2000)

Another major characteristic of this 'New War', causing fear among the Tamil exile community and fuelling the war on the island has been the LTTE's effort to retrieve financial and political support from the diaspora. While many members of the Tamil migrants willingly and actively support the LTTE, others have been subject to intimidation, extortion and physical violence. Since early 2006, as armed violence is escalating on the island, the LTTE is launching a massive fundraising drive in Canada and parts of Europe, pressuring individuals and businesses to give money for the 'Final War'. (Human Rights Watch, 2006)

2. CONSEQUENCES OF ORGANISED VIOLENCE AND WAR FOR CHILDREN

2.1. Global situation

> "Physical uprooting entails living without the familiarity of people's faces and the sound of heir voices; without the feel of the streets and the comfort of the houses, without the odors of foods, the myriad of smells, sounds, and sights, the cold and heat of the air, without the color of the sun, or the configuration of stars in the night sky. The landscape that had been internal as well as external – a very part of the refugee's soul is gone." (Falicov, 1998)

In recent decades, the proportion of *civilian casualties in armed conflicts* has increased dramatically and is now estimated at more than 90 per cent. About half of the victims are children (UNICEF, 2002). More than 2 million children have died as a direct result of armed conflict over the last decade. More than three times that number, at least 6 million children, have been seriously injured. Between 8,000 and 10,000 children are killed or maimed by landmines every year.[5] (Pearn, 2003; UNICEF, 2005)

War related injury in itself is traumatic for children, but additional traumas can also occur from painful and frightening medical treatments and living with disability, especially in resource poor countries. Hospital research on war related injuries in children during the Balkan war (1991-95) drastically highlights the type of wounding that was inflicted on the child population in Croatia, Bosnia and Herzegovina during those years. Most children were wounded by bombing and shelling or by left over explosive devices. Extremities were the most frequently wounded body regions (43 percent) and wounds to the head, neck and abdomen were the most severe. Permanent disability remained in 39.4 percent of the children. (Adjukovic & Adjukovic, 1998; Terzic, Mestrovic, Dogas, Furlan, & Biocic, 2001) Given high rates of reported head trauma (e.g. shot wounds, shrapnel, burn injuries) and severe beatings, neurological damage is often present (NCTSN, 2003). The real and imagined

[5] There are a range of additional traumatic events suffered by children in absence of war, such as accidents, domestic violence, neglect, abuse and harmful traditional practices. Two million girls in Africa for example undergo female genital cutting in any given year; 100 million women today have survived this brutal practice and are currently living with the psychological and physiological consequences of this procedure.

reactions of others to their disfigured bodies present surviving children with the additional and ongoing trauma of feeling rejected, isolated, unworthy and humiliated. It is estimated that 4 million children have *become physically handicapped and disabled* after they were wounded in conflict over the last decade. For example 75 percent of the injuries incurred from landmines in rural Somalia are to children between the ages of five and fifteen years (ICRC, 1994).

Similarly, *nutritional deficits and infectious diseases*, which often break out in epidemic patterns during conflict times, such as cerebral malaria, meningitis and encephalitis all can cause permanent neurological and psychological secondary disorders. Malnutrition, particularly protein insufficiency, iron deficiency (associated with lethargy, depression), iodine deficiency (associated with mental retardation) may also impair immune function and increase susceptibility to infection, as well as cause stunting and developmental delay. In North-Eastern Sri Lanka, for example, 20 percent of children are affected by chronic malnutrition (moderate to severe stunting) and 40 percent are anaemic. (BECARE, 2003)

Among a number of at risk populations, children are a particularly vulnerable group and often suffer from devastating long-term consequences of experienced or witnessed acts of violence. Child war survivors have to cope with *repeated traumatic life events*, exposure to combat, shelling and other life threatening events, violent death of a parent or friend, witnessing loved ones being tortured or injured, separation from family, being abducted or held in detention, acts of abuse such as torture or rape and other *aversive and stressful experiences* that can hamper children's healthy development and their ability to function fully even once the violence has ceased, such as e.g. insufficient adult care, lack of safe drinking water and food, inadequate shelter, polluted environment due to garbage and sewage, explosive devices and dangerous building ruins in proximity, marching or being transported in crowded vehicles over long distances, spending months in transit camps. (Barath, 2002a; N. Boothby, 1994; Mollica, Poole, Son, Murray, & Tor, 1997; UNICEF, 2005; Yule, 2002)

Furthermore, destruction brought by war is likely to mean that children are *deprived of key services*, such as education and healthcare. A child's education can be disrupted by armed conflict due to displacement, absence of teachers, long and dangerous walks to school (e.g. landmines, snipers) and parental poverty (e.g. inability to provide school fees and uniform and necessity for children to contribute to household income). Schools can be caught up in conflict as part of the fighting, between government forces and rebel groups, or used as centres for propaganda and recruitment. Attacks on and abductions of teachers and students are a frequent phenomenon of global warfare. The same can be observed for hospitals, doctors and nursing staff. Health centres often become a direct target, medical supply is cut off during intense periods of fighting and health personnel is frequently kept from accessing the sick and injured as a political strategy. (Cairns, 1996; Sivayokan, 2006; UNICEF, 2005)

During 1990 and 2005 an estimated 30 million children were forced by conflict and human right violations to escape their homes and are living as *refugees in neighbouring countries or are internally displaced* within their own national borders. During flight, families may become separated. More than 2.5 million have been orphaned or separated from their families because of war in the past decade. (Pearn, 2003; Southall & Abbasi, 1998; UNICEF, 2005) A study during the war in the Balkans showed that 27.5 percent of displaced children spent more than a month in a bomb shelter, many of them (28.6 percent) without their parents or other family members (Kuterovac, Dyregrov, & Stuvland, 1994). The poor living conditions in which fleeing families find themselves increase children's vulnerability to malnutrition, diarrhoeal diseases and infections (Toole & Waldman, 1993). In Africa crude mortality rates have been as high as 80 times baseline rates among refugees and internally displaced populations (Toole & Waldman, 1997). Of the 10 countries with the highest rates of under-five deaths, seven are affected by armed conflict (UNICEF, 2005). Also camps for displaced persons can be dangerous places for children were overcrowding and the weak application of the rule of law can expose them to abuse (Rothe et al., 2002). Some camps have been described as

> "'total institutions', places where, as in prisons or mental hospitals, everything is highly organised, where the inhabitants are depersonalized and where people become numbers without names" (Harrell-Bond, 2000).

Often the period of exile runs into years and decades and in such cases children may spend their whole childhood in camps and displacement. Today there are entire generations of children who have never lived at home in Africa and Asia (UNICEF, 2005).

Hundreds of thousands of children are conscripted, kidnapped or pressured into joining armed groups. The proliferation of lightweight weapons has made it possible for children under the age of 10 years to become effective soldiers. The trend in using children in armed conflict as soldiers is not diminishing, since 2003 a surge in the recruitment of children is observable. An estimated 300,000 *child soldiers* - boys and girls under the age of 18 - are involved in more than 30 conflicts worldwide. (Child Soldier, 2001; Jayawardena, 2001) Child soldiers are used as combatants, messengers, porters, cooks and to provide sexual services. Some are forcibly recruited or abducted, others are driven to join by poverty, abuse and discrimination, or to seek revenge for violence enacted against themselves and their families. When children are recruited into combat and servitude, they experience sexual violence and exploitation and are exposed to explosives, combat situations and the experience and witnessing of killings (Pearn, 2003). Somasundaram describes the following factors as catalysts for children to become LTTE child soldiers in North-Eastern Sri Lanka: death of one or both parents or relatives, family separation, destruction of home or belongings, displacement, lack of food, ill health, economic difficulties, poverty, lack of access to education, no avenues for future employment, social and political oppression, harassment from government soldiers, abductions and detention (D. J. Somasundaram, 2002).

Girls are especially vulnerable to sexual violence, abuse, exploitation, and stigmatisation, during and after conflict situations. Use of rape and other forms of violence against women has become a strategy in wars for all sides. Investigative reports following the 1994 genocide in Rwanda concluded that nearly every female over the age of 12 who survived the genocide was raped. Reports abound from conflict zones of girls being abducted and forced into sexual slavery by militias or rebel groups. (Southall & Abbasi, 1998; UNHCR, 2003; UNICEF, 2005)

The social consequences of growing up in shattered, war-torn environments include effects, such as alcoholism, drug abuse and early unprotected sexual activity (sex for food and security), which can result in teenage pregnancy and the contraction of HIV/AIDS (Kessler, 2000; Yule, 2002). The increased likelihood of *HIV transmission in conflict zones* is mostly due to the breakdown of family, school and health systems, with its regulatory safeguards that could counter these risks. Of the 25 countries with the highest proportion of children orphaned by AIDS, about one-third have been affected by armed conflict in recent years. (UNICEF, 2005)

2.2. Consequences of war on the family

> "We as professionals had some questions about the future of the Palestinian children and we asked ourselves at that time what kind of teachers, mothers and fathers they will be. We are very afraid to have lost our next generation…" (Qouta & Sarraj, 2004)

Whereas numerous studies have been published in recent years about the consequences of individual traumatisation in adults and children living in war-torn societies, literature about the effects of war trauma on the family level is almost absent. Parents and caretakers are usually equally or even more exposed to the adverse effects of violence and a relational inter-familial factor of psychiatric morbidity has been established in a number of studies. (Glenn et al., 2002; Rosenheck, 1986; P. A. Smith, Perrin, Yule, & Rabe-Hesketh, 2001; Weine et al., 2004; Yehuda, Halligan, & Grossman, 2001) In this regard, a prominent assumption uses the 'cycle of violence' hypothesis to predict that high levels of war violence cause an increase of violence on family and community level. The classical formulation of this hypothesis suggests that a childhood history of physical maltreatment predisposes the survivor to violence in later years, resulting in a downward spiral of violence and abuse. (Endrass, Vetter, Urbaniok, Elbert, & Rossegger, 2007a, 2007b) This assumption of intergenerational transfer of violence has been examined and thoroughly discussed in the past (Widom, 1989a, 1989b). Dyregrov draws a similar hypothesis:

> "We believe that the reduction of posttraumatic problems that otherwise can darken the life of a child is a very important task. Without understanding the traumatic effects we may also be ignorant of the contribution that trauma might have to the repetition of violent cycles, i.e. the participation in violence and massacres by adults who were traumatized as children. Although an area not well researched, we know that the propensity for violence is increased in victims of violence. In Rwanda there are anecdotal reports that child victims of previous massacres have been central as perpetrators in new massacres. War may make children more vulnerable to political forces that instigate violence." (Dyregrov, Gupta, Gjestad, & Raundalen, 2002)

There is evidence that child abuse escalates after major natural disasters. Studies by Curtis and colleagues (Curtis, Miller, & Berry, 2000) show that rates and proportions of child abuse reporting increased, especially in areas, which were hard hit (declared as 'disaster sites' by the president's office) by either hurricanes Andrew, Hugo or the Loma Prieta Earthquake in the US.

However there is hardly any evidence that it can be transferred to war situations. In fact, there is not even any systematic survey on the frequency of domestic violence or child maltreatment in conflict or post-conflict countries. Research from Western settings on the detrimental effects of interparental and community violence on children's mental health (e.g. association to PTSD in elementary school children and adolescents) could lead a trail (K. L. Kilpatrick & Williams, 1997; Osofsky, Wewers, Hann, & Fick, 1993). Studies suggest however that during warfare displaced adults frequently display anxiety, depression, anger, aggression, alcohol abuse, distrust, and somatisation (Joshi & O'Donnell, 2003). Some findings published by organizations and agencies working in refugee camps suggest especially a transfer from war violence to family violence as they observed high levels of spouse beating in refugee and resettlement communities[6]. Van de Put and Somasundaram (1998) describe that in studied Cambodian communities between 10-20 percent of all families were not functioning normally by their own standards. The dysfunction of these families included neglect of children and overwhelming hopelessness. Some of the families were apparently caught in a vicious cycle of depression, poverty and more depression. Adults living in refugee or displaced settlements often lose their access to employment, resulting in a decline in their social status. They feel degraded and demoralised, having to become financially dependent, and helpless. (Adjukovic & Adjukovic, 1998) Khamis (Khamis, 2000) has studied child maltreatment in Palestinian families and found a relationship of parental maltreatment (psychological and physical child abuse) with perceived poverty, living in refugee camps and child labour.

Correspondingly, there is some evidence from studies with traumatised Vietnam veterans that households of traumatised veterans are more prone to violence, that family members suffer more often from psychiatric morbidity and that combat-related post-traumatic stress disorder impairs men in fulfilling their role as a father (Glenn et al., 2002; Solomon, 1988). In addition, research in industrialised countries, mainly in the US, has identified several risk

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[6] for an overview on issues relating to gender based violence in refugee settings, see Pittaway (Pittaway, 2004); for special reference see (Human Rights Watch, 2000; Kenyon Lischer, 2006; UNHCR, 2003)

factors for family violence on children. The main predictors comprise parents' psychopathology, parents' unemployment, poverty and poor nutrition (Limber & Nation, 1998; Margolin & Gordis, 2000). Another major risk factor is substance abuse, as children living in affected households are more likely to experience abuse or neglect than children in non-substance abusing households. (Chaffin, Kelleher, & Hollenberg, 1996; De Bellis et al., 2001; Dube et al., 2001) To date, there is strong evidence for a link between traumatic war events and an increased level of substance abuse as well as a high comorbidity between PTSD and alcohol abuse (Khantzian, 1985; Stewart, 1996).

Children can also be indirectly affected by parents' traumatic illness. Children's ability to self-regulate depends in large part upon the emotional state of their caregivers. Loss and trauma that impact parental communicative functioning can seriously reduce children's coping potential if such communication is not sustained by the child's social environment (Dyregrov & Yule, 2006). Emotional numbing, avoidance and the inability to speak about the past as well as current feelings of hopelessness and inadequacy can prevent caretakers to express love and caring emotions in a healthy way and respond to the child's need. As a result, children are forced to operate within a domestic context in which intimacy is severely impaired and emotional as well as social and physical neglect are likely to occur. Parents who suffer often have difficulties interacting with their children and are less able to maintain normal rules and boundaries. In fact, greater severity of symptoms in children is associated with having a mother with poor psychological functioning and living in a family with inadequate cohesion. (Laor, Wolmer, & Cohen, 2001; P. A. Smith et al., 2001) Moreover, children's processing of traumatic incidences is sensitive to parental definitions and interpretations of the event, with the chance of a sound reframing and incorporation of the event into the child's assumptive world, or the risk of a maladaptive development (Almqvist & Broberg, 2003; Glenn et al., 2002; P. A. Smith et al., 2001; Solomon, 1988; Tolan & Guerra, 1998).

On the other hand parental wellbeing seems to play an important role in resettled refugees. Studies show that children's stress levels are inversely related to their mother's ability to cope with the displacement (Ajdukovic & Ajdukovic, 1993) and that mother's emotional well-being is a predictor for children's long-term emotional well-being (Almqvist & Broberg, 1999).

In summary, beyond individual exposure to trauma, we can assume that experiences related to political violence and war indeed constitute a serious risk for the well-functioning family. War and political conflict disrupt some to the basic parental functions, such as protecting children and enhancing trust in security and human virtues (Qouta & Sarraj, 2004). There is reason to predict high levels of child maltreatment and domestic violence in war-affected families. Domestic violence in children, defined as neglect, physical abuse, sexual abuse, and emotional maltreatment experienced or witnessed at home, is well known for having detrimental long-term effects on various areas of child development.

Beyond family violence, Somasundaram (2007) describes an emerging pattern of youth violence in North-Eastern Sri Lanka. After growing up in war environment, when the tsunami hit coastal regions, male youth in displaced camps seemed to drift into anti-social groups and activities. Unemployed and left out of school-based programs, some left to join militant groups, other started abusing alcohol and formed into violent groups and criminal gangs. Having grown up immersed in an atmosphere of extreme violence, many had witnessed horrifying deaths of relatives, the destruction of their homes and social institutions, experienced bombings, shelling, extrajudicial killings. The natural catastrophe ‘tsunami’ hit communities and individuals, who were already saturated with life experiences of war, conflict and family/community violence.

To better understand the frequency and risk factors for domestic violence experienced or witnessed by children living in war regions, our working group undertook a domestic violence and war study in child populations in North-Eastern Sri Lanka and Kabul, Afghanistan in 2005. The study is explained elsewhere in detail (C. Catani, Schauer, & Neuner, in prep). In summarising her findings Catani suggests that children in post-war societies seem to be affected not only by aversive events which directly occur within the framework of organized violence but also by both family related stressful experiences such as domestic violence and parental substance intake as well as aversive factors on the community level, for instance poverty. Beyond one specific causal factor, it appears to be the interplay and summation of a variety of harmful aspects, which make families particularly vulnerable to be engaged in abusive behaviour towards their children.

2.3. Psychiatric Morbidity

Much current research related to war, organised violence and its resulting psychological consequences is focused on adult populations exposed to these events. High levels of psychiatric morbidity among survivors, especially in post-conflict, low-income settings is reported by a number of studies from various parts of the world (Carlson & Rosser-Hogan, 1991; de Jong et al., 2001; Karunakara et al., 2004; Mollica, McInnes, Poole, & Tor, 1998; Mollica et al., 1999; Mollica et al., 2001; Naeem et al., 2005; Scholte et al., 2004; D J Somasundaram & Sivayokan, 1994). Similarly, adult morbidity rates have been shown in studies by our working group in post-war populations of Southern Sudan (Karunakara et al., 2004; Neuner, Schauer, Klaschik, Karunakara, & Elbert, 2004), Somalia (Odenwald, Hinkel, & Schauer, 2007; Odenwald et al., 2005; P. L. Onyut et al., 2004) and Rwanda (P. L. Onyut et al., 2004).

A common finding in all is traumatisation through multiple events in these populations, a correlation between number of traumatic events experienced and the diagnosis of PTSD additional to high rates of comorbidity (especially depression, anxiety disorders, somatisation, alcohol abuse and suicidal ideation) as well as a massive number of added daily stressors due to post-war life in resource scarce, dangerous environments.

A majority of studies available to date on children have been conducted on the mental health status and the provision of adequate services for refugee and asylum seeking children in western or safe neighbouring host countries (Geltman, Augustyn, Barnett, Klass, & Groves, 2000; Geltman et al., 2005; Sack, 1998). Epidemiologic studies, carried out in (post-) conflict settings, which are informed by child interviews are still new, especially in the under-15 years of age group. Numerous social and psychological factors have to be considered in settings of war and organised violence. Many children lose their family members, close relatives and friends, and many are orphaned. In many cases children actually witness violence, torture or death of beloved persons. Extra stressors are family members listed as missing over long periods of time. Once displaced, children in conflict are not just faced with the loss of their home, but also the loss of their familiar environments, the routine of an educational setting, social networks, and the usual pattern of family life. Research shows that children who lack supportive family environments are at special risk for the development of psychological difficulties. Adult members of displaced families are themselves exposed to multiple stressors. Increased family stress, marital discord (due to changing family hierarchies, e.g. mothers earn income), increase in alcohol and substance use and domestic violence can result. These cumulative negative effects produce high levels of stress and disturbing consequences for children. (Adjukovic & Adjukovic, 1993, 1998)

Studies that have interviewed both adult and child respondents point to a higher vulnerability for impairment in children (Norris, Friedman, Watson et al., 2002). Children and adolescents are particularly susceptible when they encounter stressful experiences during critical periods of their emotional, cognitive, and endocrinologic development (Charmandari, Kino, Souvatzoglou, & Chrousos, 2003). However individual differences in symptom expression play a role also in children. Similar to adults, exposure to war and political violence, individual vulnerability before trauma exposure, migration and resettlement stress are associated with increased vulnerability to psychological symptom expression in children. (Almqvist & Broberg, 1999; Garbarino & Kostelny, 1996; Sack, 1998; Steel, Silove, Bird, McGorry, & Mohan, 1999)

A striking finding is the high event load that children in circumstances of war are exposed to. More than six severely traumatising events are not uncommon, in fact a majority of children is exposed to several types of event categories as well as an additional range of adverse life circumstances, such as poverty, forced resettlement, domestic violence (C. Catani et al., submitted; C Catani, Schauer, & Neuner, 2007; C. Catani et al., in prep; R. Dybdahl, 2001; Elbert et al., 2007, in press; Macksoud & Aber, 1996; Neuner, Schauer, Catani, Ruf, & Elbert, 2006; L. P. Onyut et al., 2005; Schaal & Elbert, 2006; E. Schauer et al., 2007).

As in adults, most common findings in these studies are increased rates of mental disorders, in particular a high rate of posttraumatic stress disorder (PTSD) in the affected children and adults. It is also clear today and has been frequently shown that there is no resilience against PTSD in children, but a rising probability for the development of PTSD dependent on the number and types of experienced traumatic events (Allwood, Bell-Dolan, & Husain, 2002; C. Catani et al., submitted; C Catani et al., 2007; R. Dybdahl, 2001; Elbert et al., 2007, in press; Macksoud & Aber, 1996; Neuner, Schauer et al., 2006; L. P. Onyut et al., 2005; Schaal & Elbert, 2006; E. Schauer et al., 2007; Steel, Silove, Phan, & Bauman, 2002; Yule, 1992; Yule & Williams, 1990).

The literature consistently shows that post-traumatic stress reactions in children are not transitory entities, but rather persist over time. Even when a decline in symptoms is observed, it does not equate complete recovery; also age at exposure does not seem to mediate symptom expression over time for a majority of suffering children (Almqvist & Brandell-Forsberg, 1997; Dyregrov, Gjestad, & Raundalen, 2002; Elbedour, ten Bensel, & Bastien, 1993; Goenjian et al., 1999; Hubbard, Realmuto, Northwood, & Masten, 1995; Kinzie, Sack, Angell, Clarke, & Ben, 1989; Kinzie, Sack, Angell, Manson, & Rath, 1986; McFarlane, Policansky, & Irwin, 1987; M. Ruf, Neuner, Gotthardt, Schauer, & Elbert, 2005; Sack, Him, & Dickason, 1999; Schaal, Elbert, & Neuner, 2007; P. A. Smith, Perrin, Yule, Hacam, & Stuvland, 2002; Thabet & Vostanis, 2000; Yule et al., 2000). Recent longitudinal studies make this point spectacularly clear. In a study in children after a shipping disaster Yule found that 34 percent of children were still suffering from PTSD between 5 and 8 years later (Yule et al., 2000). A 33-year follow-up to a land slide disaster in Aberfan, Wales showed that 29 percent of the adult survivors, who were then children, still me criteria for PTSD (Morgan, Scourfield, Williams, Jasper, & Lewis, 2003). Marshall and colleagues (Marshall, Schell, Elliott, Berthold, & Chun, 2005) showed that twenty years after resettlement in the US, 62 percent of randomly selected Cambodian refugees still suffered from PTSD, 51 percent from Major Depression and low, but significant rates of alcohol abuse. A follow-up study by Goenjian and colleagues showed the persistence of PTSD symptoms in untreated adolescent survivors of an earthquake, with a mild increase even from 3-year to 5-year follow-up (Goenjian et al., 2005b). These studies suggest that regardless of the passage of time, many young survivors continue to suffer from distressing symptoms, with PTSD being most persistent.

Gender does not consistently emerge as either a risk or a protective factor. Even though differences have been detected, especially in exposure type, girls seem to suffer from psychiatric symptoms as frequently as boys (R. Dybdahl, 2001; Hjern, Angel, & Jeppson, 1998; Muecke & Sassi, 1992; Sourander, 1998). Some studies find girls more symptomatic than boys, other find boys equally symptomatic to girls. Overall there seems to be agreement that it is the type and amount of exposure to traumatic stressors, the form of expression of symptoms (internalising versus externalising), the social support available and the particular course of recovery that might vary most among different sexes, rather then the actual gender-based vulnerability to development of psychopathology (de Jong et al., 2001; R Dybdahl, 2001; Morgan et al., 2003; Scholte et al., 2004; Seedat, Nyamai, Njenga, Vythilingum, & Stein, 2004) Similarly age at traumatisation is not a consistent predictor nor protector for traumatic stress reactions and the expression of symptomatology. (Berman, 2001; Elbedour et al., 1993).

Aggression, anxiety, depression, numbing, suicidal ideation, hyperactivity and attention deficit are part of the wide ranging psychological consequences associated with the experience of violence during childhood and are often observed co-morbid with PTSD (N. Boothby, 1994; Garbarino & Kostelny, 1996; Goldstein, Wampler, & Wise, 1997; B. Stein, Comer, Gardner, & Kelleher, 1999; Yule, 1992; Yule & Williams, 1990). Furthermore, reflecting both cultural norms for emotional expression and manifestations of psychological distress, somatisation can become a significant component of the symptomatology (Lauterbach, Vora, & Rakow, 2005; Locke, Southwick, McCloskey, & Fernandez-Esquer, 1996) In addition, there seems be an association with long lasting cognitive impairments. (Elbert et al., 2007, in press; McFarlane et al., 1987; Perez & Widom, 1994; M Schauer et al., 2006; D J Somasundaram, 1998).

It is important to keep in mind that conceptualising child survivors of war and organised violence from a psychopathological perspective carries the danger of ignoring the very important fact that individual symptoms as a result of wartime trauma indicate first and foremost a 'disturbed society' (NCTSN, 2003), even though the mental, emotional and physical disturbance is detected in individuals. By definition, trauma experienced by children in conflict regions is interrelated with contextual political and social factors.

2.4. Post Traumatic Stress Disorder and its neurological correlates

2.4.1. The Symptoms of PTSD

Community samples of survivors of organised violence, natural disaster, war and political persecution all show elevated levels of Post Traumatic Stress Disorder. Across cultures and almost entirely independent of age or education, core symptoms of this debilitating mental health problem, which is caused by the experience of one, usually multiple and/or ongoing traumatic events are reported (APA, 1994; Joshi & O'Donnell, 2003):

1) recurrent and intrusive distressing recollections of the event, including images, thoughts, or perceptions (e.g. observable in children's repetitive play or trauma-specific re-enactments); recurrent and distressing dreams (e.g. for children nightmares with scary content of any nature); acting or feeling as if the traumatic event was recurring; intense psychological and physiological distress at exposure to internal or external cues (e.g. observable in constriction of affect);

2) persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness; in its most extreme forms phenomena like derealisation, depersonalisation or symptoms that resemble psychosis can occur;

3) persistent symptoms of increased arousal and constant alertness. Children often experience this as eating and sleeping problems, increased autonomic arousal (e.g. increased sweating and concentration difficulties), foreshortened sense of future (e.g. even small children can express hopelessness in relation to ever growing up), recklessness and risk-taking behaviour, hyperactivity, withdrawal, defiance, aggression and also numerous psychosomatic complaints (e.g. common are stomach-aches and headaches).

In order to qualify as a psychiatric illness, the disturbance must cause clinically significant distress or impairment in social, occupational, scholastic or otherwise important areas of functioning; in children also observable as loss of acquired skills (impact on the child's developmental functioning); as well as persist for a certain amount of time.

2.4.2. The Alarm response

When a person experiences an important, potentially threatening event, the body reacts with a cascade of adaptive functional changes, which are controlled by physiological messengers, such as neurotransmitter and hormones. Catecholamines, such as adrenaline, noradrenalin and cortisol are important stress mediators in this process, however not just for potentially traumatic stressors, but also for macro- or micro stressors that we experience in our life.

Work related stress, absence of regular cardio-vascular work out, living with small children in the household, getting divorced, eating inadequate food, worrying about school, chronic illness, daily time pressure are all factors that need to be balanced by stress mediators. Consecutive adaptive physiological changes are visible in the cells and tissue of our organs over time. Eventually the regulation capacity of our stress mediators will make the difference between successful adaptation or enduring damage and impairment of our brain and body.

Primarily controlled by the amygdala, stress mediator increase initially the performance of our memory and cognitive capacity, especially in emotionally charged circumstances – positive or negative. We will remember our first kiss as well as our first big academic failure or the first job appointment better then other life events. However in the circumstances of a traumatic event (=maximum perceived stress level) what initially was an adaptive reaction, preparing the body to fight or flee - since stress hormones enable physiological changes such as: improved hearing (enabling better orientation), dilation of pupils (enabling better visual sense), increased heart rate and volume processing (enabling us to run far and long), stopping digestion (no energy waste), relaxation of colon muscles and bladder (allowing bodily relief via defecation and urination), increased blood sugar and lipids (immediately accessible energy for muscles), increased tonus in skeleton muscles (allowing fast moves), vaso-construction of skin (reduced blood loss in case of injury), increased production of white blood cells (preparation to fight bacteria or other contaminants in case of wounding), bronchial dilation (increasing breathing capacity), reduced secretion of mucus and saliva, (allowing opening of respiratory tract), increased perspiration (palm of hand, sole of foot, underarm) – over time results in maladaptive structural and functional changes in the brain.

Once the stress axis gets overextended and too many stress hormones are released over too long a time the activation of the nerve cells reduce up to a point of atrophy and memory representation is strongly compromised as a result. When stress reaches a climax, neurotransmitters and hormones, such as cortisol, epinephrine and norepinephrine, are released in great amounts and over extended periods of time. A large amount of cortisol remodels brain areas responsible for our episodic memory; in particular the Hippocampus (recording of chronological account of our biography). At the same time epinephrine and norepinephrine boost the activity of the amygdala, a brain regulating emotional memory, including fear. The amygdala is now extremely active while the functionality of the Hippocampus is dramatically reduced.

Performance of Amygdala & Hippocampus under increased stress

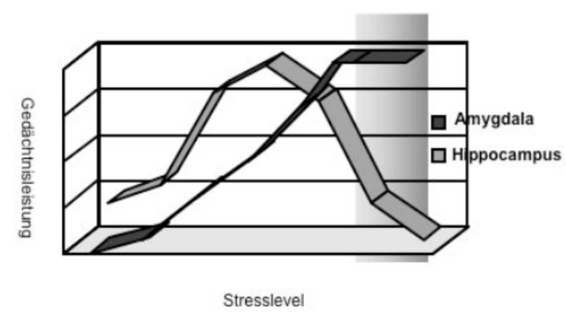

Fig. 4 (M. Schauer, Neuner, & Elbert, 2005)

2.4.3. Fear Network & 'Building Block Effect'

Evidently PTSD is a form of memory pathology, as explained above, more precisely a problem of memory storage, access and retrieval. As life experiences are stored in the autobiographical memory system, it contains over time information about life time periods ("I was living in Mogadishu with my family at that time") as well as specific events ("when the soldiers attacked our house"). The more lively a narrator is able to retrieve past experiences, the more she is able to activate memory that is part of the non-declarative system, e.g. sensory perceptions. A hearer can then literally start to see a movie unfold in front of his mind's eye, simply by active listening. The 'cold' explicit memory ("I had been to school that day"), starts getting interweaved with the 'hot' implicit memory, including sensory ("the soldiers had green uniforms, I could hear their footsteps on the floor when they entered our house"), cognitive ("will they shoot?"), emotional ("I am afraid") and physiological ("my heart was beating fast") elements. In a healthy brain, we expect to see such inter-connectedness of the hot memory and the autobiographical context memory ('cold memory'), even when the person narrates horrible, traumatic experiences. However the structure and functioning of the brain starts to change when traumatic events are repeatedly witnessed or survived, when they are experienced as extremely threatening and accompanied by feelings of helplessness, fear and/or horror (I. T. Kolassa, C. Wienbruch et al., 2007; I T Kolassa et al., 2007). With every new experience this network is reinforced, enlarged and eventually detached from declarative memory structures, now called a 'fear network' (Lang, 1979; Lang & Cuthbert, 1984). In other words when a situation causes us to feel extreme fear and physiological arousal, the representation of our autobiographic life experiences start to become fragmented, implicit memory networks loose their connectivity to context information, we do not know anymore where a specific sequence has its place and time and as a result the fear of yesterday turns into the fear of the moment.

Fear network of a traumatic event

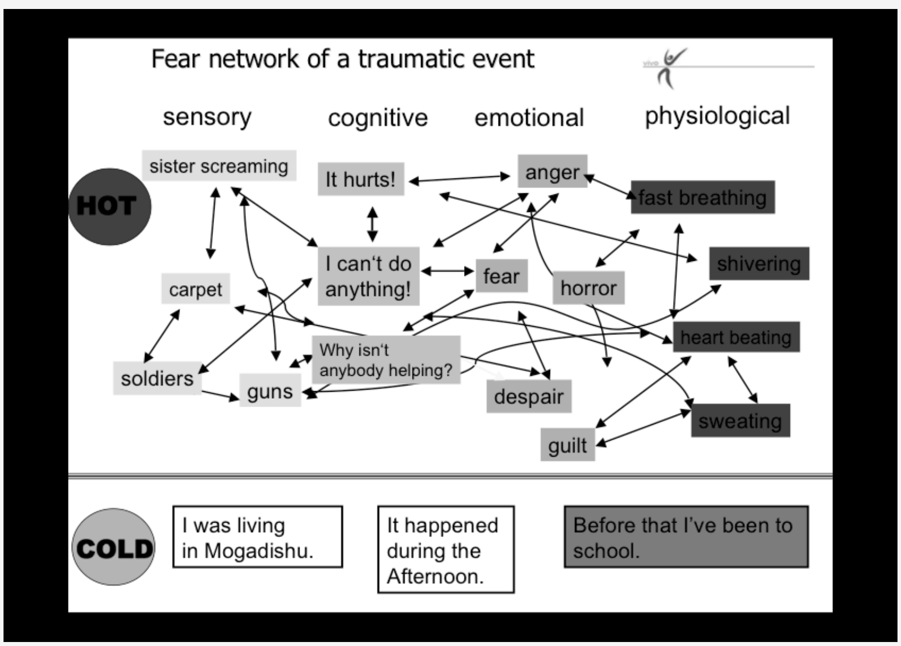

Fig. 5 based on (Lang, 1979; M. Schauer et al., 2005)

Basically all psychiatric disorders related to anxiety (e.g. PTSD, Generalised Anxiety Disorder, Panic Disorder) are characterized by the development of such a 'fear network', where individual elements related to the frightening situation are tightly connected and massively represented (M. Schauer, Elbert, & Neuner, 2007). In fact so much so, that it might be enough to activate one representation (e.g. "seeing a green uniform") to start up the entire network of a fearful, highly arousing experience, in its most extreme state called a 'flashback'. This model predicts further that the probability for the formation of a pathologic fear network increases with each added new traumatic stressor the affected person is exposed to. And according to Hebb's known Rule 'what fires together wires together', now new, formerly neutral co-activated representations can be freshly in-built into the fear network and contribute to its enlargement (e.g. a security guard in a refugee camp, accidentally wearing a green uniform). As a result, for a traumatised person the world can become an increasingly frightening place to live in. Even though individual resilience is variable and dependent upon many factors (e.g. current social support, individual cognitive appraisal, age at first experience, amount of traumatic event types, current additional micro- or macro stressors), with a significant adverse event load, nobody seems to be protected from developing symptoms of post-traumatic stress. Clinical observation seems to show that especially the experience of different types of traumatic events heightens the likelihood of psychopathology. Studies by our working group, as well as others, repeatedly show that after experiencing a number of different traumatic event types a linear correlation between number of traumatic event types and probability for the development of PTSD establishes. (C. Catani, Schauer, Onyut et al., 2005; Chimienti, Nasr, & Khalifeh, 1989; Ertl, Schauer, Onyut, Neuner, & Elbert, 2007; Karunakara et al., 2004; Kuterovac et al., 1994; Mghir, Freed, Raskin, & Katon, 1995; Mollica et al., 1998; E. Schauer et al., 2007; M. Schauer et al., 2003; P. A. Smith et al., 2002; Steel et al., 2002). As an example, in a group of 469 randomly interviewed school children in North-Eastern Sri Lanka a clear 'building block' effect (= the probability of detecting a relationship between trauma exposure and PTSD) could be established in these longterm war-affected children (C. Catani, Schauer, Onyut et al., 2005; C. Schneider, 2005).

The ‘Building Block Effect’

- correlations between severity of PTSD symptoms and number of traumatic event types

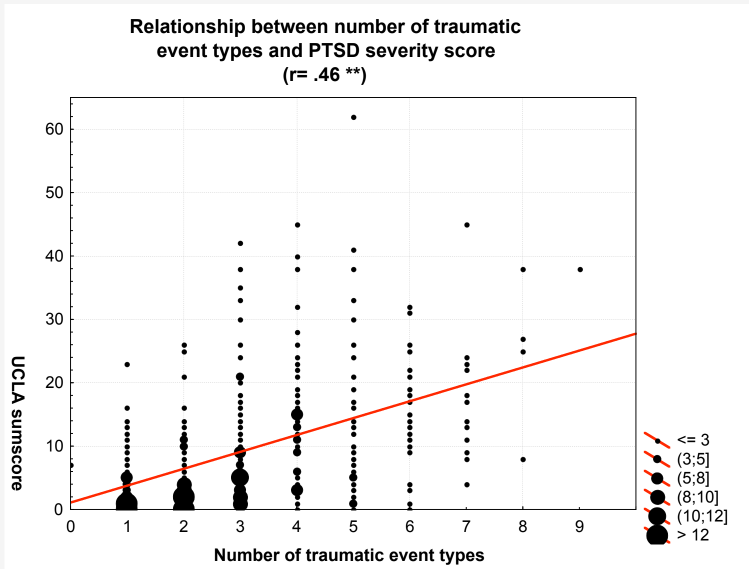

Fig. 6 (C. Catani, Schauer, Onyut et al., 2005)

Episodic memory refers to the ability to remember events of the past and to place them correctly into life time periods. Interestingly, this memory function is intended to work forward in time, meaning, past memory is stored in a way that can help us predict and understand the future, rather then simply account for actual experiences. The ability to predict future events on the basis of individual experience seems to have been the driving evolutionary force in the origin of our episodic memory. Memory content therefore changes with every recall. The activation frequency of related neuronal networks change equally, whether the memory is just replayed in the mind’s eye or if actual re-experiencing, with new sensory input takes place. In a similar way, the fear structure of a traumatised person is not static, but is modified with each activation be it in vivo or in mental reliving (Kolassa & Elbert, 2007). In this way, subjectively projected fear of a potential future event (simply by imagining e.g. a worst case scenario in one’s mind) can mix with past traumatic experiences and aggravate clinical PTSD symptoms. In the same way this mechanism could be made use of in therapy. For example, would it be possible to reverse fearful memory, by re-activating it as best possibly and at the same time encoding new and safe cognitive, sensory, emotional, physiological and most importantly context related information?

2.4.4. Changes in the Brain's Structure and Functioning

It is often assumed that individual trauma relevant cues are needed in order to activate the fear network. However, we know that a) the fear network comprises of many different elements and b) that most of these elements are not specific at all to the traumatic event, e.g. heart beat, elevated breathing. Emotional numbing is a result of exactly such unspecific emotional arousal. In the end, the traumatised person does not just passively avoid fearful feelings, but any form of intense emotional experience, since also positive sensations such as joy, love, excitement lead to physiological arousal (e.g. heart beat, quickening of the pulse, deep breathing) and can in this way ignite the fear network. This was shown by members of our working group, when torture survivors with severe PTSD symptomatology were presented with affective stimuli in form of fast pictures – rapid visual stimulation ((M Junghofer, Bradley, Elbert, & Lang, 2001; M. Junghofer et al., 2006) Each picture was shown only for a split second (3 or 5 Hz) and one followed the next without interruption (M Junghofer et al., 2003). The MEG showed visual processing in all subjects, but only the traumatised ones showed activation in the frontal regions of the brain. Some torture survivors with PTSD even went into a flashback.

2.4.4.1. Functional Brain Changes

These data indicate that severe traumatic experiences can change brain potentials. (Kolassa & Elbert, 2007; I. T. Kolassa, C. Wienbruch et al., 2007) When measuring neuronal mass activity via EEG (electro encephalography) and MEG (magnet encephalography) we can see various forms develop over time. If spikes and certain waves become visible, we take them as indicators of pathological brain processes, like e.g. in epileptic subjects. In border regions of brain lesions, slow (1-4 Hz) high amplitude waves are generated; such focal generators in the delta frequency range do not occur in a healthy brain (Rockstroh, Ray, Wienbruch, & Elbert, 2006). Neuronal networks with such changed oscillatory activity are visible only in psychiatric illness, even when no macroscopic lesions are visible. The distribution of such 'slow waves' however varies for different clinical disorders. Persons with affective disorders show hypo-activity in this frequency range; those who suffer from PTSD show increased 'islands' of focal generators in the delta frequency range, predominantly in the frontal regions, with peak activities in the region of the insular cortex (Rockstroh et al., 2006). The left insular has been ascribed a key role in expressing verbal affect, and insular dysfunction could play a key role in the decoupling of emotional from language centres, leading PTSD victims to be caught in the speechless terror of their intrusive memories (I T Kolassa et al., 2007). We now have first indication that successful therapeutic intervention can change the frequency of such generator islands and thereby proves their existence and characteristics (Elbert et al., 2005).

2.4.4.2. Structural Changes

A series of studies has been trying to detect distinctive structural brain features of traumatised persons (Bremner, 1999). Meta-analysis (Karl et al., 2006; M. E. Smith, 2005) show that PTSD is associated with abnormalities in multiple frontal limbic system structures. And despite a high variability of age, gender, type of trauma, severity of symptoms and volumetric methodology, a trauma related atrophy of hippocampus reduction of about 6-12 percent persists, however seems to be related to multiple or long term exposure or chronic PTSD (Bremner, 2006; Bremner & Narayan, 1998; M. E. Smith, 2005). Patients diagnosed with PTSD and those with Clinical Depression show comparable effects (Bremner et al., 2000). Causality has been established in animal experiments, also the phenomenon of the 'building block effect' in humans (Neuner, Schauer, Karunakara et al., 2004). So far evidence is missing that could causally link a reduction in hippocampal atrophy to successful therapy. This is not surprising since even normal daily requirements to e.g. our spatial memory can enlarge the hippocampus (Elbert & Rockstroh, 2004). Other structural changes have been reported for the 'anterior gyrus cinguli' and are assumed to be located in the amygdala, based on animal experiments (Karl et al., 2006).

In summary there is evidence for functional, structural and neuro-endocrinological changes in persons, who have been exposed to multiple or ongoing traumatic stressors (I. T. Kolassa, C. Eckart et al., 2007; Kolassa & Elbert, 2007; I. T. Kolassa, C. Wienbruch et al., 2007; I T Kolassa et al., 2007). These changes are interrelated and result in a memory pathology whereby, as explained above, the connections of the 'hot' implicit memory contents of the fear network and the ‘when’ and ‘where’ of the context information has gotten lost. As a consequence flashbacks, intrusions and ‘speechless terror‘ result for the patient.

These findings indicate the direction in which psychotherapy for PTSD patients should aim: the reconnection of singe elements of the fear structure with the context of the experience (time and place), during intense re-living thereby enabling new memory storage to take place.

2.5. Prevalence of PTSD in war affected child community samples

> The association between war, trauma and posttraumatic stress disorder (PTSD) and other types of psychopathology (predominantly depression) is well established among children and adolescents (Yule, 1992; Yule, Perrin, & Smith, 1999).

A number of investigations from various war zones in different cultures have reported high rates of PTSD in young populations. Rates vary enormously, partly as a result of differing methodology, and partly as a result of different types of traumatic events, time of assessment and various other factors. Saigh (Saigh, 1991) found that 27 percent of a group of Lebanese children who had been exposed to bombings and terror attacks met criteria for PTSD. Thabet & Vostanis report 41 (Thabet & Vostanis, 1999) and 59 percent (Thabet, Abed, & Vostanis, 2002) respectively of moderate to severe PTSD reactions in Palestinian children from Gaza at two different time points. In a large sample of approximately 1000 children aged 12 to 16 years, Khamis (Khamis, 2005) reports a prevalence rate of 34,5 percent of school going Palestinian children from East Jerusalem and the West Bank. Quota found an even higher PTSD prevalence (87 percent) in those Palestinian children who lived in areas of direct bombardment (Qouta, Punamaki, & Sarraj, 2003). Allwood and colleagues found 41 percent of clinical PTSD in children 6-16 years old during the 1994 Sarajevo siege. They also reported an additive effect of violence and deprivation, clearly overwhelming children’s coping skills, leaving them vulnerable to externalizing and internalizing adjustment difficulties (Allwood et al., 2002). Working groups of Dyregrov and Yule found high levels of post-traumatic reactions in 6-15 year olds from areas of warfare in Croatia, Bosnia and Herzegovina (Dyregrov, Kuterovac, & Barath, 1996; P. A. Smith et al., 2002) as well as in 8-

19 year olds in post-genocide Rwanda (Dyregrov, Gupta, Gjestad, & Mukanoheli, 2000). In an earlier study Kinzie and colleagues could show a prevalence of 50 percent of PTSD among 8-12 year old survivors of the war in Cambodia (Kinzie et al., 1986). A 3-year later re-interview of a sub-sample showed that PTSD had become chronic for almost all of these children (Kinzie et al., 1989). Similar rates have been found in other refugee groups from Cambodia (Hubbard et al., 1995; Realmuto et al., 1992). High rates of Post-Traumatic Stress Disorder have also been confirmed in a number of other studies with children from different cultures and different ages, e.g. 70 percent of PTSD among 8-21 year olds in Kuwait (Nader, Pynoos, Fairbanks, al-Ajeel, & al-Asfour, 1993); 16 – 23 percent of PTSD in recently and chronically war exposed Columbian children (age 5-14), exacerbated by abuse and parent's poverty (Perez-Olmos, Fernandez-Pineres, & Rodado-Fuentes, 2005); 21 percent in children from Iran who have been exposed to organized violence (Almqvist & Brandell-Forsberg, 1997); 20 percent (Peltzer, 1999) and 35-60 percent (Paardekooper, de Jong, & Hermanns, 1999) respectively among Sudanese refugee children in Northern Uganda and a staggering 97 percent of post-traumatic stress reactions of clinical importance are reported by Derluyn in former child soldiers in Northern Uganda after having experienced a range of severely traumatizing events during rebel captivity in the bush (Derluyn, Broekaert, Schuyten, & De Temmerman, 2004).

Consistent with this, previous studies conducted by our working group found high PTSD prevalence rates in young and adolescent child survivors of war and organized violence. Schaal & Elbert found that 10 years after the Rwandan genocide PTSD persisted at a rate of 44 percent in surviving orphans (Schaal & Elbert, 2006). In 2005 Ruf and colleagues interviewed 102 children of asylum seekers in Germany, who mainly originated from countries with a background of war and other forms of organized violence (M. Ruf et al., 2005). The authors found that 19.6 percent of children met criteria of PTSD. A prevalence study by Ertl & Pfeiffer is currently under way in IDP camps in Northern Uganda, comparing non-abductees to children who were abducted by rebels and recruited as child soldiers. A first analysis shows a significantly elevated level of PTSD among the abductees (33-50 percent) and a relationship between number of traumatic event types and length of time of abduction. A school-based epidemiological survey in Kabul, Afghanistan highlighted not just elevated rates of PTSD among children, but a significant relationship to exposure to family violence and forced child labour (C. Catani et al., in prep).

2.5.1. Child PTSD in North Eastern Sri Lanka

Overall only a good handful of studies have been carried out, trying to map the impact of traumatic war experiences on Sri Lanka's children of the Northern East. One of the main researchers in the region is internationally renowned author and psychiatrist Prof Daya Somasundaram. In a survey, as early as 1993, Somasundaram found that 31 percent of local adolescents (N=625) suffered from PTSD. These young people also reported high rates of anxiety (34 percent), depression (29 percent), hostility (45 percent), somatisation (32 percent), loss of memory (44 percent), loss of concentration (48 percent), loss of motivation (32 percent), functional disability (35 percent) including relationship problems (34 percent). Guus van der Veer & Somasundaram point to a rate of 22 percent of PTSD in pre-school children in the war-affected representative zone of Vaddukoddai in 1994 and a rate of between 15 – 50 percent of PTSD in adolescents in the Northern-East, depending on their location in 1993. The psychiatric disorder was apparently accompanied by high percentages of malfunctioning, like withdrawal from play in 30-39 percent of the pre-school children, decline in school performance in 60 percent, cruel and anti-social behaviour respectively in 30 and 44 percent of the primary school children. Further there was cognitive impairment such as loss of memory in between 28 – 65 percent of the children, or loss of concentration in 33 to 60 percent of adolescents. (G. van der Veer, Somasundaram, & Damian, 2003) A study almost a decade later by the same author still found that one-third of children had lost a relative in the war, 25 percent had witnessed violence and 25 percent had experienced a threat on their own life; suggesting an ongoing high rate of traumatisation in the young North-Eastern Sri Lankan population (D. J. Somasundaram, 2002).

The 'Mental Health Initiatives as Peace Initiatives in Sri Lankan School Children affected by Armed Conflict Project' implemented a school-based survey in Sri Lanka, focussing on communities where war atrocities and massacres had happened. Results showed that 58 percent of children had experienced direct combat (especially shooting, bombing and shelling) and 25 percent had been violently assaulted among other traumatic events, such as domestic violence. One fifth of the interviewed children presented with a severe Post-Traumatic Stress Reaction and equally one fifth suffered from suicidal ideation. Depression symptoms were more than double in those scoring high for PTSD. (Chase et al., 1999)

A special group are the victims of landmines in the conflict areas. From April 1996 to March 1998 sixty-seven victims of landmines in the Vallikamam area of Jaffna were studied. There were three times as many males as females. About 48 per cent were aged 20-39 years. Of the females, 60 per cent were unmarried, suggesting social stigmatisation of handicapped in a society where due to the arranged marriage system, almost everybody is married (90 percent of the population). About one-fifth of the victims were children. The majority belonged to the lower socioeconomic strata. Half lost their earning capacity after the injury. Post-traumatic stress disorder (72 per cent), acute stress reaction (73 per cent), anxiety disorder (80 per cent) and depression (73 per cent) were found to be very significantly higher in this group than in the general population. There were also remarkable changes in the areas of functional ability, religious practice, use of alcohol and social relationships. The 'phantom limb' phenomenon was a striking feature among amputees. The author strongly suggests that the psychosocial impact of landmine injuries has to be considered seriously in rehabilitation work. (Gunaratnam, Gunaratnam, & Somasundaram, 2003)

Immediately after the declaration of a ceasefire in 2002, our own working group carried out an epidemiological study in the LTTE controlled, closed off areas of North-Eastern Sri Lanka (Vanni) with 420 Tamil school children from 16 different schools (Elbert et al., in press). This study showed that 25 percent of school children met the diagnosis of PTSD. Our data also showed that almost all children (92 percent of the children surveyed) had experienced severely traumatizing events such as combat (79 percent), bombing (58 percent), shelling (40 percent), attacks on the home (30 percent) and witnessing the death of a loved one (40 percent). The reporting of traumatic events by the children was confirmed by their accounting of subjective feelings of horror (89 percent) and helplessness (71 percent) during exposure. More than half of the children also related that these experiences and the resulting symptoms would interfere with their life through social withdrawal, difficulties leading a normal family life, and problems in school performance in a major way. The greater the number of events reported, the greater the number of difficulties in functioning, as reported by the child ($r = .38$, $P < .001$), and the lower the BMI ($r = .24$, $P < .001$).

In 2004, in preparation for our randomised controlled dissemination treatment trial (see chapter 5) we undertook a preparatory school survey, this time in Jaffna and Vallikamam educational zones of Northern Sri Lanka. 35 Master Counsellors, with intense prior training, interviewed 469 randomly selected children in six different schools, with a mean age of 13 years and 58 percent girls in the sample. The instrument included socio-demographic questions, a previously validated Tamil version of the UCLA PTSD Reaction Index und a Functioning questionnaire. The results showed an 18 percent point prevalence of PTSD with number of traumatic events being clearly related to the PTSD symptom severity score. Almost 20 percent of the children had witnessed a family member being hit by another member of the household, almost 40 percent had seen a person being beaten up or killed and about 35 percent had lost a loved one to violent death (data was first presented in (C. Catani, Schauer, Onyut et al., 2005; C. Schneider, 2005)

At 3 to 4 weeks after the December 2004 tsunami disaster we assessed once again symptoms of posttraumatic stress disorder (PTSD) this time in 264 children who lived in severely affected coastal communities in Manadkadu (northern coast), Koskoda (western coast), and Galle (southern coast) of Sri Lanka. The prevalence rate of tsunami-related posttraumatic stress disorder (PTSD) ranged between 14 percent and 39 percent and an additional 5 to 8 percent had PTSD unrelated to the tsunami. PTSD symptoms were explained by the severity of the trauma exposure and family loss, as well as previous traumatic events. (Neuner, Schauer et al., 2006)

In summary, children exposed to war-related traumatic events suffer from post-traumatic stress disorder in high numbers across different cultures, ethnicities and diverse social environments.

2.6. Risk Factors for the Development of PTSD in Children

There are fundamentally five important factors that emerge consistently as key predictors of later development of PTSD in children in the literature:

1) *severity of trauma*: e.g. rape, being injured, perceived direct life threat, witnessing death of a family member (Cao, McFarlane, & Klimidis, 2003; Dyregrov et al., 2000; Galea et al., 2002; Goenjian et al., 2005a; Heptinstall, Sethna, & Taylor, 2004; Kaplan, 2002;

Kuterovac et al., 1994; Nader et al., 1993; Neuner, Schauer et al., 2006; P. A. Smith et al., 2002);

2) *proximity to event*: there is greater likelihood of PTSD if a child directly experiences the trauma, but also direct witnessing of e.g. domestic violence, observing assault or murder, direct bombardment as well as exposure to very strong sensory impressions are strong predictors (Baker & Kanan, 2003; Dyregrov et al., 2000; Garbarino & Kostelny, 1996; Horowitz, Weine, & Jekel, 1995; Kuterovac et al., 1994; Nader et al., 1993; Neuner, Schauer et al., 2006; Pfefferbaum, 1997; R S Pynoos et al., 1987; R. S. Pynoos et al., 1993; P. A. Smith et al., 2002; Thabet et al., 2002; Vizek-Vidovic, Kuterovac-Jagodic, & Arambasic, 2000);

3) *amount of traumatic events (multiplicity), amount of event types or duration of experience*: such as long-term sexual abuse, pre-trauma vulnerability (e.g. exposure to physical abuse) before experience of natural and/or man-made disaster, or simply amount of traumatic exposure, e.g. number of traumatic events or event types suffered (Allwood et al., 2002; Almqvist & Brandell-Forsberg, 1997; C. Catani et al., submitted; C. Catani, Schauer, Onyut et al., 2005; Chimienti et al., 1989; Deykin, 1999; Dyregrov et al., 2000; Goenjian et al., 2005a; Heptinstall et al., 2004; Hubbard et al., 1995; Kaplan, 2002; Karunakara et al., 2004; Mghir et al., 1995; Mollica et al., 1998; Mollica et al., 1997; Nader et al., 1993; Neuner, Schauer et al., 2006; Papageorgiou et al., 2000; Pfefferbaum, 1997; R S Pynoos et al., 1987; Schaal & Elbert, 2006; M. Schauer et al., 2003; C. Schneider, 2005);

4) *peri-traumatic dissociation:* is by some researchers claimed to be the largest predictor of PTSD symptoms in children. Those who dissociate during the event seem to have a significantly greater likelihood of developing PTSD than those who do not (Brewin, Andrews, & Valentine, 2000; Ozer, Best, Lipsey, & Weiss, 2003; Schafer, Barkmann, Riedesser, & Schulte-Markwort, 2004);

5) *parental reaction to the trauma*: even though parents tend to minimize PTSD symptoms in their children (Dyb, Holen, Braenne, Indredavik, & Aarseth, 2003; Foa, 2000b; Yule & Williams, 1990; Zivcic, 1993), there is evidence that a strong parental and family support system, especially good family cohesion, can reduce the onset or severity of trauma

symptoms (Almqvist & Broberg, 1999; Kaplan, 2002; Meyer et al., 1994; Osofsky, 1999; Thabet & Vostanis, 2000) or at least have modifying influence (P. A. Smith et al., 2001). Numerous studies have further identified the key role of a responsive, predictable, and nurturing caregiver as well as secure attachment, in the development of a healthy neurobiological stress response (Perry & Pollard, 1998; R S Pynoos, 1994). Gunnar (Gunnar, 1998; Gunnar & Donzella, 2002) suggests that security of attachment between an infant and caregiver buffers stress by down regulating the HPA axis. Along those lines, pre-disaster vulnerability due to household violence predicts the onset of PTSD post-disaster (Osofsky, Cohen, & Drell, 1995; Udwin, Boyle, Yule, Bolton, & O'Ryan, 2000). However, when the parent is also traumatised by the same event or by the child's exposure, the degree of their own traumatisation will further impact on the PTSD in their children; specially maternal insensitivity to their children's needs and maternal distress and anxiety might then play a role (Adjukovic & Adjukovic, 1993, 1998; Almqvist & Broberg, 1999; Joshi & O'Donnell, 2003; McFarlane et al., 1987; Mghir et al., 1995; Osofsky, 1999; Qouta, Punamaki, & Sarraj, 2005; P. A. Smith et al., 2001; Vila et al., 2001).

There are other risk factors to consider in the development of PTSD in children, e.g. *gender* (R. Dybdahl, 2001; Elbedour et al., 1993; Goenjian et al., 2001; Hjern et al., 1998; Muecke & Sassi, 1992; P. A. Smith et al., 2002; Sourander, 1998; Yule et al., 1999); *age* (Berman, 2001; Elbedour et al., 1993; Meiser-Stedman, 2002; R S Pynoos, 1994; Terry, 1990); *personality traits* e.g. shyness is linked to risk versus protective, extroverted, active support seeking behaviour (Almqvist & Brandell-Forsberg, 1997); *psychiatric co-morbidity of both, child and parents* (Brewin et al., 2000); *exposure to images of disasters through the media, social support* (Brewin et al., 2000; Kovacev & Shute, 2004), none of them however emerge as conclusive in term of prediction of PTSD, since they appear co-founded with the five major predictor categories above and their effect weakens after controlling for objective and subjective trauma exposure features.

In summary, it is probably safe to say that, traumatic experiences interact with multiple factors in the child, parent and family, associated also with an allostatic load (McEwen, 2000), with continuing deleterious effects on the brain and body of the survivors as well as the family and community system. The clear prediction for development of PTSD in children and especially the discovery of sound protective factors needs yet a good amount of ‘dismantle’ type research.

2.7. The Applicability of the DSM IV PTSD criteria to children

There is a current discussion on the applicability of the concept of PTSD, with its distinct number of symptoms to children. Dyregrov & Yule suggest that above the age of 8 years, children’s reactions to trauma are more similar to those manifested by adults (Dyregrov & Yule, 2006). Research further show however that the presentation of PTSD symptoms in young children at times does not resemble those of traumatised adults (Kaplan, 2002). Very young children may appear to have few symptoms, yet they may experience more co-morbidity of anxiety and depressive disorders. Then there are the phenomena of repetitive play and behavioural re-enactment that resemble the original trauma, however children might not be aware that they are reliving the past in such actions (APA, 1994; Yule et al., 2000). Also children may express disorganised or agitated behaviour rather than responding to a trauma with fear or helplessness (Salmon & Bryant, 2002). Where adults have ‘flashbacks’ children may have memory deficits and poor recall of the original trauma. There are also indications that as in adults, neurophysiological and neurobiological changes occur in response to trauma in children, but that their ability to adapt differs from those of adults. Pfefferbaum and colleagues (Pfefferbaum, 1997) find a reduced ability to adapt via the fight and flight response: when young children are exposed to repeated trauma, they will freeze emotionally and then begin to dissociate. Such ongoing stress causes large increases in neurotransmitter activity, over time affecting brain development and placing children at risk for development disorders. Furthermore, unlike for adults, the content of dreams or nightmares in children must not directly relate to the actual traumatic event, ‘bad or distressing dreams’ or ‘frightening dreams without recognisable content’, are understood as intrusive symptomatology (APA, 1994). In this sense children do show wide a range of intrusion symptoms.

Clinical observations expressed by several prominent authors (Dyregrov & Yule, 2006; Eth & Pynoos, 1985; Fletcher, 1996; Frederick, 1985), supported by the observations in our own working group, show that children, especially young ones, show very little emotional numbing; they also have more problems reporting avoidance reactions (may be, as suggested by Dyregrov and Yule (2006), cause they require a rather complex cognitive introspection). The APA (1994) has noted this and states, that "because it may be difficult for children to report diminished interest in significant activities and constriction of affect, these symptoms should be carefully evaluated with reports from parents, teachers, and other observers". This makes it difficult for children to meet DSM criterion for the avoidance criterion of the diagnostic algorithm. It also adds difficulty to assess young children's functional impairment.

Van der Kolk (van der Kolk, 1996) however reverses this logic in adults, in that he argues that intrusions are to be considered 'normal' among people exposed to extreme events, whereas development of avoidance and arousal symptoms is considered to be more pathological; thereby supporting the current logic of only 1 intrusion, but 2 and more arousal and avoidance symptoms necessary to diagnose PTSD.

There is also the issue of misdiagnosis re arousal symptoms. Children, especially small ones, may report various physical symptoms, such as stomach-aches and headaches in place of other hyperarousal symptoms (APA, 1994; Kendall-Tackett, 2000; Lauterbach et al., 2005). Also, whereby adolescent PTSD reactions resemble most closely adult PTSD, they do portray a greater likelihood of impulsive and aggressive behaviour as well (T. Miller, El Masri, Allodi, & Qouta, 1999). Researchers question the validity of first diagnosis of 'Oppositional Defiant Disorders and Conduct Disorders (ODD)' and suggest that a majority of adolescents, e.g. in the US juvenile justice system, have been directly exposed to or witnessed traumatic events in their lives, ongoing violence and family dysfunction and have developed PTSD, other comorbid disorders and substance abuse; suggesting a mis- and underreporting bias in the juvenile delinquent group (Burton, Foy, Bwanausi, Johnson, & Moore, 1994; S. A. King, 2000) [7](see also chapter 1.7.4. on Dissociation). A study by Soberman (Soberman, Greenwald, & Rule, 2002) showed that a group of successfully treated boys with PTSD showed a large and significant reduction of problem behaviours and concludes that effective trauma treatment

[7] Among juvenile girls identified by the courts as delinquent, more than 75 percent have been sexually abused. Adolescents with alcohol dependence are 6 to 12 times more likely to have a childhood history of physical abuse and 18 to 21 times more likely to have a history of sexual abuse than those without substance abuse problems. 82 percent of all adolescents and children in continuing care inpatient and intensive residential treatment programs in Massachusetts have histories of trauma as reflected by a point-in-time review of medical records. The level of exposure to catastrophic violence and loss together with the resulting posttraumatic stress have been found to be as severe in US inner cities as in post-earthquake Armenia, war-torn Bosnia, post-invasion Kuwait and other trauma zones (Annafoundation, 2007).

for boys ages 10-16, can lead to reduced conduct problems in this population. Also Attention Deficit Hyperactivity Disorder (ADHD) and post-traumatic stress disorder are the most commonly diagnosed disorders in sexually abused children (Weinstein, Staffelbach, & Biaggio, 2000), in fact they are so often comorbid in small children, that they seem to form part of the symptom cluster of PTSD, since there is considerable overlap in symptomatology between the two diagnoses. Failures in emotional regulation of traumatised children can manifest as externalising disorders such as ADHD (T. Miller et al., 1999). The distinction however is important as misdiagnosis may lead to inappropriate treatment. It has been suggested thus, that PTSD should always be considered in the differential diagnosis of ADHD (Jones, Trudinger, & Crawford, 2004).

Another interesting, differing phenomenon from adults is the increased rate of dissociative responses in traumatised children and a wider range of anxiety disorders; specifically separation anxiety and generalised anxiety (Fletcher, 1996).

In light of all these observations, there are suggestions that the diagnosis of PTSD should be broadened and changed to a ‘PTSD Spectrum Disorder’ category (Kaplan, 2002) or ‘environmentally induced complex developmental disorder’ (De Bellis et al., 2001), for children who suffer ongoing forms of violence and maltreatment, in order to include the range of trauma spectrum disorders, often diagnosed as ‘comorbid’ today. Also Scheeringa and colleagues (Scheeringa, Zeanah, Myers, & Putnam, 2003) have suggested an alternative set of criteria to employ in making a diagnosis of PTSD in very young children, since many PTSD criteria require verbal descriptions of internal affective states and memories, and this is likely to be difficult for younger children (J. Cohen, 1998; Scheeringa, Zeanah, Drell, & Larrieu, 1995). Discussions in our working group similarly circle around a possibly necessary increase of number of symptoms required from the intrusion cluster and decrease of number of symptoms required from the cluster of avoidance in order to diagnose PTSD in small children more correctly.

Certainly, more research will be needed before any of these changes can be adopted.

2.8. Comorbidity & other consequences of traumatic stress

Both during war and times of organised violence and terror and throughout the years that follow, children face numerous losses and threats to optimal development. The entire spectrum of contextual, interpersonal, and intrapersonal realms is affected (D J Somasundaram, 2007). There are numerous changes in the child's inner world and her/his environment during times of war and conflict. As Garbarino (Garbarino, Kostelny, & Dubrow, 1991) and Herman (Herman, 1992) point out, for many young people who grow up amid war violence, trauma is not a single or isolated event, it becomes a central condition of life; there is in fact no 'post' trauma period. Even if they are fortunate enough to escape from immediate harm, the challenge is to find ways to make sense of a world in which terrifying experiences are a part of everyday reality. Research methodologies that rely on structured interviews with a focus primarily on post-traumatic stress symptoms may fail to capture related stressful experiences and reactions of children, such as grief, depression, anxiety, anger, loss, feelings of betrayal, racism in the host country, behaviour and emotional difficulties, interpersonal problems, academic failure, suicidal behaviour and health problems (Goenjian et al., 1995; Hubbard et al., 1995; Kinzie et al., 1986; Lauterbach et al., 2005; McFarlane et al., 1987; Sack et al., 1994). Authors suggest that frequency of comorbid symptoms also increase in proportion to the degree of exposure of the child to the trauma (Berman, 2001; Giaconia et al., 1995; March, Amaya-Jackson, Terry, & Costanzo, 1997; Schaal & Elbert, 2006). In fact children who developed PTSD are at increased risk of other diagnosis such as depression, anxiety, suicidal ideation and alcohol and drug dependence in comparison to traumatised non-PTSD counterparts (Famularo, Fenton, Kinscherff, & Augustyn, 1996; Giaconia et al., 1995).

Children *under the age of six* often manifest their emotional responses to trauma in the form of sleep difficulties and nightmares. Worry and anxiety, manifest as 'clinging behaviour' in the form of refusing to leave caretaker's side, worrying that something bad might happen to the caretaker; fear of leaving the home might also exist. Loss of interest in activities and repetitious traumatic play and retelling of the trauma can be observed especially around school-going age (Joshi & O'Donnell, 2003).

In the age group *7-11 years* a common response to war trauma is regression to an earlier stage of development. Regressive behaviour includes bedwetting, thumb-sucking, baby talk, and wanting to carry an object (Osofsky, 1999). At this age children are very aware of their parents' worries and particularly sensitive to their parents' reactions. It seems that there is a direct process of model learning (Joshi & O'Donnell, 2003). Children of this age may also develop physical symptoms like loss of appetite and multiple physical complaints, e.g. stomachaches, headaches, dizziness. (APA, 1994; Barath, 2002b; Joshi & O'Donnell, 2003; Kendall-Tackett, 2000; Lauterbach et al., 2005; Rothe et al., 2002; Vizek-Vidovic et al., 2000) Prolonged fear of being alone, safety concerns, and preoccupation with danger may surface. These fears become exacerbated during times of longterm war and terrorism, resulting in chronic states of alarm and hyperreactivity or even dissociative states (Perry & Pollard, 1998).

Adolescents (>12 years), more than at any other stage of development, are likely to keep their feelings about the trauma inside, making him/her more prone to depression. Teenagers might begin to withdraw from family and friends, at the same time displaying an 'everything is okay' attitude. Irritability, opposition, aggression but also hyperactivity may appear, as may a wish for revenge and action-oriented responses to trauma (Dodge, 1993; Joshi & O'Donnell, 2003). Adolescents refugees may also be at increased risk of psychosis (Tolmac & Hodes, 2004).

2.8.1 Aggressive behaviour, Self-harm and Self-medication

Studies have frequently documented elevated levels of aggression and externalising problems among traumatised children, especially those who were physically abused (Dodge, 1993; Haskett & Kistner, 1991; Hoffman-Plotkin & Twentyman, 1984). In a review article Lewis (Lewis, 1992) summarises his findings in the following way:

> "In short, whatever increases impulsivity and irritability, engenders hypervigilance and paranoia, diminishes judgement and verbal competence, and curtails the ability to recognise one's own pain and the pain of others, also enhances the tendency towards violence."

Studies show that already at preschool age, children who have been traumatised engage more frequently in aggressive behaviour than their peers. (Haskett & Kistner, 1991) Further, adolescents exposed to chronic violence are more likely to expect violence, hostility, and aggression in their environments and perceive these traits to exist even when they do not. The ‘hostile attribution bias’ – the attribution of hostile intent to others when no such intent exists – appears common among individuals exposed to chronic violence. (Dodge, 1993) Miller et al. (T. Miller et al., 1999) found significantly elevated levels of Conduct Disorder in a large Palestinian child sample among the age group 6-11 years (boys: 22.9 percent; girls: 7.3 percent) and age 12 years and up (boys: 16.7; girls: 8.3). Similarly he found high levels of Attention Deficit Hyperactivity Disorder – ADHD in the age 6-11 group (boys: 11.9; girls: 8.5) and the 12 years and up group (boys: 16.7; girls: 7.3). Highly significant correlations between frequency of trauma exposure and number of event types experienced and a diagnosis of Conduct Disorder could be shown. In addition, the same significant relationship was found between frequency of trauma exposure and identified ADHD. All incidences, which involved witnessing somebody else being injured or killed, regardless of whether it was a family member or stranger, were associated with emotional and behavioural problems. The ‘hostile attribution bias’ makes adolescents lonely, since their attitude pushes peers away. Authors conclude that adolescents who feel particularly alienated due to trauma-related processes may now be especially susceptible to the influence of rebel or terrorist organisations (Joshi & O'Donnell, 2003). In the same way is known that the repeated infliction of pain can lead to aggression. Lewis (Lewis, 1992) proposes that maltreatment in the form of abuse or neglect exacerbates pre-existing psychobiological vulnerabilities. He suggests that aggressive and violent experiences in childhood provide a model for violence, teach aggression through reinforcement and inflict emotional and physical pain. Studies with former child soldiers, or rebel abductees show that commanders seem to abuse this principle deliberately by purposefully introducing pain during e.g. ‘initiation rituals’ in order to create desired states of anxiety, constant alertness and readiness to commit acts of violence on order. In a study of 85 juvenile delinquent boys, ages 13-20, Steiner and colleagues (Steiner, Garcia, & Matthews, 1997) found that 32 percent of the adolescents suffered from PTSD, another 20 percent from partial PTSD. One half of the subjects described the witnessing of interpersonal violence as the most traumatising event. Subjects with PTSD showed lowered levels of restraint, impulse control and suppression of anger. The authors conclude: “The study of trauma offers a new way of looking at pathways from victim to perpetrator: delinquent acts may be a direct or indirect of past victimisation.” (Steiner et al., 1997)

Due to experiences of violence, the child's capacity to recognise feelings in self and others, to put them into words and to thereby inhibit aggressive behavioural impulses against self and others is diminished (Lewis, 1992). Authors have proposed a link between self-harm and substance-abuse as self-medication. This hypothesis is based primarily on clinical observation and posits that traumatised individuals attempt to use substances or hurt themselves in order to dampen traumatic memories, or to avoid or 'escape' from other painful symptoms of PTSD or chronic physical pain. In one way traumatised children's behaviour, such as rocking, painful head banging, and self-mutilation, is seen as a stimuli activating the brain's endogenous opiates; in other ways, drugs such as alcohol, opiates, cocaine serve to reduce anxiety, trigger soothing dissociation, and stimulate active dopaminergic and mesolimbic areas of the brain (Herman, 1992; Perry & Pollard, 1998). Deykin and colleagues (Deykin & Buka, 1997) attempted to untangle the temporal sequence of chemical dependence and PTSD by comparing the age of the first episode of PTSD with the age at which a subject first met full criteria for dependence, separated by gender in a US sample. They found that PTSD tended to precede the onset of dependence among females, whereas the reverse was true for males. The researchers proposed that females use alcohol and other drugs as a way of deafening the psychic discomfort of PTSD ('self-medication hypothesis'). In males substance dependence appeared to be the primary disorder, leading to behaviours and interactions that enhance trauma occurrence. This hypothesis, the 'high-risk hypothesis', posits that substance-abusing individuals, because of high-risk lifestyles, are likely to experience a trauma and are therefore more likely than the general population to develop PTSD. The second hypothesis however has been proven less veritable in the current literature. Either way, substance abuse in adolescence has numerous immediate consequences in form of additional traumatic exposures (e.g. accidents, injuries) and long-term effects in terms of occupational and familial instability (e.g. interpersonal violence) and early mortality. (Deykin, 1999; Giaconia et al., 2000; Kessler, 2000)

In adults we know, e.g. from the US National Comorbidity Study (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995) that more than half (51.9 percent) of men and 27.9 percent of women with PTSD met criteria for lifetime alcohol abuse and dependence. Studies of adult individuals seeking treatment for substance abuse disorder indicate an extraordinarily high prevalence of PTSD in this group. Jacobsen and colleagues for example showed that in individuals with drug or alcohol use disorders, the lifetime prevalence of PTSD was found to be between 36 percent and 50 percent, and the current prevalence of PTSD was between 25 percent and 42 percent (Jacobsen, Southwick, & Kosten, 2001). The most common types of traumas reported among adult individuals with PTSD and substance abuse disorders are interpersonal, usually involving sexual abuse among women and physical abuse among men. In fact patients in treatment for PTSD and substance abuse disorders frequently report childhood histories of emotional and physical neglect or abuse, witnessing domestic violence, death of a loved one and other unhealthy environments. It is important to note that most individuals with both PTSD and substance abuse disorders report experiencing multiple traumatic events during their lifetimes (Brady, 2004). Physically and sexually abused children are also at increased risk for drug abuse, in combination with increased externalising behaviour and significant functional impairment (Kaplan et al., 1999; Kaplan et al., 1998). When treating children who have undergone interpersonal violence and are diagnosed with PTSD, service providers might include preventative action, including public health measures in view of increased likelihood of later development of substance abuse.

Despite the consensus concerning the prevalence of PTSD and substance abuse in adult populations, research on comorbid conditions among adolescents and young adults is less well developed. An especially vulnerable group of children in this respect are those who run away from home (e.g. due to physical/sexual abuse or poverty), or for various reasons (e.g. death of parents due to AIDS) have no more home (Farber, Kinast, McCoard, & Falkner, 1984). An estimated 30-100 million children at this moment live and work on the streets. In order to survive, homeless young people tend to be very involved in “street economies”, street peer networks and “street culture” and are at significantly increased risk for premature death due to drug overdose, suicide and being murdered among other (Roy et al., 2003; Roy et al., 2004). Also homeless children tend to abuse drugs, which are inexpensive and mostly legal (such as art and office supplies, industrial chemicals, or aerosol propellants) which are easily available. The characteristics of these substances are volatile, often inhaled and directly affect the central nervous system. Inhalant use is a particular problem in developing countries (NIDA, 2000). Further consequence of street life and drug abuse is the high correlation of unprotected sexual intercourse, sexual violence and HIV/AIDS infection. A survey in Mumbai, India with 1650 street children showed that a majority of children have experienced penetrative sex and nobody has ever used any condom. Drug use was very common and ranged from inhalants, glues, solvents to intravenous drug us (Gurumurthy, 2000). To highlight the complexity of trauma and risk-taking behaviour even more, authors have noted excessive and inappropriate sexualised behaviour in socially stressful situations among sexually abused children, at times also increased in physically abused ones (Deblinger, McLeer, Atkins, Ralphe, & Foa, 1989).

When it comes to treatment of adults with PTSD and substance abuse disorder, the theory and practice was to first treat the substance abuse disorder and then attend to symptoms of PTSD. However relapse rate due to painful intrusive memory and other PTSD symptoms was high. Several recent studies have now demonstrated significant success in treating PTSD with exposure-based treatment method parallel (Back, Dansky, Carroll, Foa, & Brady, 2001; Brady, 2004). Further exploration of different types and timing of psychotherapeutic interventions will be important, also for child populations.

2.8.2. Grief reactions

Grief reactions have been little studied in children, who grow up in times of war and displacement. Even though, grief is not conceptualised as a pathologic phenomenon, it can turn into a more severe form of psychological suffering once e.g. the memory of the traumatic experience prevents the child from processing the loss of a loved one, such as parents, siblings or friends adequately (J. Cohen, Goodman, Brown, & Mannarino, 2004; Quirk & Casco, 1994). In any case, grief is experienced as a painful emotional state, usually combined with high levels of distress and can add to the overall burden of vulnerability, especially when children lose intimate caretakers. Nader and colleagues (Nader et al., 1993) assessed grief reactions in Kuwaiti children and youth (aged 8-21 years) after the Gulf war, finding that 98 percent of the sample reported at least one symptom of grief. Following the Gulf War Dyregrov and Raundalen (Dyregrov & Raundalen, 1992) found that, among a range of other symptoms, Iraqi children who had witnessed the bombing of a shelter that resulted in the deaths of 750 people showed significant and lasting signs of grief. In line with these findings, Smith and colleagues (P. A. Smith et al., 2002) report elevated levels of grief reactions in children from Bosnia-Herzegovina. In most of the cases, Smith reports, either the death had been traumatic and witnessed by the child, or the normal period of mourning had been disrupted by ongoing fighting. The latter was apparently seen when bodies were buried hurriedly with no formal ceremony during lulls of shelling, or when bodies on one side of town were dug up, bagged, and exchanged for prisoners of war or other bodies from the opposite side. Smith conclusion is therefore that children's witnessing of traumatic deaths and disrupted rituals or ceremonies after death are likely to result in abnormal grief reactions. Surely the events described, if witnessed by children would constitute potentially traumatising experiences in themselves and often it is unclear how far these grief reactions can be called pathologic. Dismantling of effects and causes are still to be done in respect to the interplay of loss, and bereavement in the context of trauma. It is also not clear yet, how symptoms of grief and depression interact. Authors suggest that a substantial part of child post-disaster depression seems to stem from loss; studies have shown that up to 90 percent of children who experienced the deaths of a close family member during the course of a disaster developed depressive symptoms (Goenjian et al., 2001; Sack et al., 1999). The question of course is whether those children who did lose family members, where also more closely exposed to the disaster (proximity and severity of) and thereby having developed depressive symptoms as a sequelae to the traumatic impact.

2.8.3. Depression

Many studies show that depression is strongly associated with posttraumatic stress disorder in war and disaster affected children (C. Catani et al., submitted; Dyregrov & Raundalen, 1992; Goenjian et al., 2005a; Hubbard et al., 1995; Husain et al., 1998; Kinzie et al., 1989; Papageorgiou et al., 2000; M. Ruf et al., 2005; Sack et al., 1994; Saigh, 1991; Schaal & Elbert, 2006; C. Schneider, 2005; Zivcic, 1993). Authors find comorbid depression in up to 80 percent of children who survived high levels of trauma exposure (Goenjian et al., 2001). In fact some authors claim that depressive symptoms also follow a dose-of-exposure pattern (Goenjian et al., 2005a). Researcher also find over time increasing numbers of comorbid depression in children who have been exposed to traumatic events and are living with chronic PTSD as a result (Goenjian et al., 1997; Roussos et al., 2005; Yule & Udwin, 1991). Roussos and colleagues (2005) found that PTSD score was the single most powerful variable predicting depression in earthquake exposed children and adolescents in Greece.

In fact there is a high degree of overlap between the symptoms of PTSD and depression. PTSD according to DSM IV (APA, 1994) shares 10 of the 17 symptoms that constitute the Hamilton Rating Scale for Depression (Hamilton, 1967). Currently PTSD, depression and anxiety are considered discrete conditions, since they all show sufficient important differences, at least as of DSM IV.

Studies with children in war-torn regions repeatedly show increased rates of depression, e.g. in Afghanistan (Mghir et al., 1995), Cambodia (Clarke, Sack, & Goff, 1993; Kinzie et al., 1989), Croatia, (Zivcic, 1993), Lebanon (Saigh, 1991), Rwanda (Schaal & Elbert, 2006), Sri Lanka (C. Catani et al., submitted; C Catani et al., 2007; Elbert et al., 2007, in press; Neuner, Onyut et al., 2006; E. Schauer et al., 2007), Somalia (L. P. Onyut et al., 2005). Longitudinal studies with child populations who have survived war and organised violence, which are still few today, might help reveal whether depression is a longer term or delayed consequence of having lived through war, whether it is tied to subsequent stress or negative life events or whether it is simply a result of actually living with the painful symptoms of PTSD. For example, a study by Kinzie (Kinzie et al., 1986) of young Cambodian refugees found increased rates of depression some years after the conflict and it was then related to their present day adverse events. Same results were also shown by Hubbard et al. in a study with Cambodian adults who survived massive trauma as children (Hubbard et al., 1995). Similar outcomes are reported by Clarke and colleagues (Clarke et al., 1993) in their regression findings where they show that depressive symptoms are more strongly predicted by recent stressful events in Cambodian adolescent refugees, than by past traumatic exposure of the past. The group reports further that a 6-year follow-up study revealed that PTSD diagnosis and symptoms were found to persist much longer then depressive diagnoses and symptoms, which declined much more rapidly. Similar patterns were found by Heptinstall and colleagues in a group of refugee children, in that they found a significant correlation of pre-migration traumas and PTSD, as well as post-migration stressors and depression symptom; in particular severe financial difficulties and insecure asylum status increased depression scores (Heptinstall et al., 2004). Smith (2002) reports that in his child sample from Bosnia-Herzegovina, depression was more strongly associated with symptoms of posttraumatic stress than with exposure; raising the possibility that depressive feelings among children are a secondary consequence of posttraumatic symptoms, rather than of the exposure directly. Interestingly depression symptoms were also elevated in children, whose mother's suffered from mental health difficulties (P. A. Smith et al., 2001). In a longitudinal study Yule and colleagues could show that of the surviving adolescents of a Greek shipping disaster, 90 percent of those who developed PTSD, did so without delayed onset; however depression had a delayed onset, often beginning a year post-disaster (Bolton, O'Ryan, Udwin, Boyle, & Yule, 2000; Yule et al., 2000). A twelve-year follow-up study by Sack reports massive and persistent symptoms of PTSD in Khmer refugees (adolescents at time of exposure) over time; depression did not just persist, it grew in fact worse over time (Sack et al., 1999). Further a reduction in social networks has been found to predict depression in Lebanese adolescents better than exposure to war-related events (Farhood et al., 1993). Similarly, and contrary to expectations, our working group has not found significantly increased levels of depression in the absence of posttraumatic stress symptoms in Ethiopian AIDS orphans, despite highly elevated levels of grief (Winkler, 2006). This might support the hypothesis that symptoms of depression are closely tied to PTSD and that trauma symptoms might contribute to the onset and severity of secondary depression in children, that however socially supportive circumstances or favourable life circumstances might be able to mediate post-traumatic depression (P. A. Smith et al., 2002). Some authors claim, that the development of depressive symptomatology post-disaster might also be related to age; whereby older children are more at risk of developing depression (Papageorgiou et al., 2000), in contrast to younger ones who might externalise the causes and consequences of the event (Thabet & Vostanis, 1998).

2.8.4. Dissociation

William Yule, one of the most prominent researchers on child PTSD, calls ‘peri-traumatic dissociation’ a marker[8], which can predict later development of PTSD in children. Other authors share this point of view, among them: (Brewin et al., 2000; Fletcher, 1996; Herman, 1992; Ozer et al., 2003; Schafer et al., 2004; van der Kolk, 2003). During times of trauma, fight or flight is rarely an option for children, as they are often physically unable to defend themselves or escape. The most readily accessible response to the pain of trauma may be to activate dissociative mechanisms, involving disengagement from the external world through the use of ‘primitive’, pan-mammalian defences such as depersonalisation, derealisation, numbing and in extreme cases catatonia (Perry & Pollard, 1998). Dissociation might be protective, allowing the child to psychologically survive the trauma. Over time, however it often becomes maladaptive, emerging at inappropriate times during, for example, situations

[8] In his own words ‘a red herring’; personal conversation

that may trigger verbal of nonverbal/bodily memories of earlier trauma. Children who have learnt to cope with trauma by dissociating are vulnerable to continue to do so in response to minor stresses. The continued use of dissociation as a way of coping with stress interferes with the capacity to fully attend to life's ongoing challenges. During dissociative episodes, the child may stare off briefly and appear as if he or she is daydreaming (Sack, Angell, Kinzie, & Rath, 1986). Such children may be misdiagnosed as suffering from ADHD, inattentive type (Joshi & O'Donnell, 2003). Other children may freeze in response to certain activating stimuli. Caregivers or teachers may misinterpret this reaction as an act of defiance. If confronted, more anxious children can quickly escalate to feeling threatened, 'frozen' and ultimately resort to a classic fight or flight response by becoming aggressive or combative over relatively minor events (Joshi & O'Donnell, 2003). According to Perry (2001), males tend to utilize hyperarousal responses whereas females and children are more likely to dissociate. Other children may react to stressors by dissolving into regressed, dissociative states that may contain micropsychotic episodes including auditory command hallucinations. It is relatively common for severely traumatised children to hear voices commanding them to harm themselves or others. Consequently, they can be erroneously misdiagnosed as suffering from a primary psychotic disorder such as schizophrenia.

2.8.5. Suicidality

The relationship between PTSD and child suicidality is very little researched. One of the few investigations into this matter by Famularo and colleagues (Famularo et al., 1996) presents a significant correlation between childhood diagnosis of PTSD and at least transient suicidal ideation. The authors suggest that suicidal ideation may be increased in individual cases, particularly cases in which the child's functioning is additionally impaired. In our epidemiological study (Elbert et al., in press) in the LTTE-controlled areas of North-Eastern Sri Lanka, we found a highly significant relationship between PTSD and risk for suicide, which was diagnosed for 26 percent of the children with PTSD, but only for 7 percent of children without PTSD.

In the late 1980's Sri Lanka's suicide rates climbed to become highest in the world per capita (40 per 100,000). Suicides were especially frequent among adolescents and young adults, both male and female. Compared to the US, the suicide rate for males ages 15 to 24 years in

Sri Lanka was nearly four times greater; the female rate nearly 13 times greater (Berger, 1988). Even though the suicide rates had dropped during 1980 and 1989, notably in young males, it reappeared after the cessation of intense fighting. Authors hypothesised that war may function as an alternate to suicide especially in young people (D J Somasundaram & Rajadurai, 1995). The use of liquid agrochemicals for suicidal purposes declined during war, while alary seeds (yellow oleander) became more popular. The method chosen may reflect availability and cultural popularity (D J Somasundaram & Rajadurai, 1995). Not all suicide attempts result in deaths of course, so the number of patients admitted to hospital with acute poisoning in the North-Eastern regions of Sri Lanka has increased enormously from early to late 90's, causing great stress to the already overstretched medical services. Some researchers found that for most of the youngsters, self-poisoning seemed to be the preferred or only method of dealing with difficult situations (Eddleston, Sheriff, & Hawton, 1998).

The reasons for the epidemic are unclear. Sociologists have suggested that the young have few support systems and are unable to cope with societal and cultural demands. Frustrations felt by Sri Lanka's highly educated youth in the face of war, poverty, and the lack of opportunity at home and abroad are also likely to be exacerbating factors. Similarly to Kaplan and colleagues, who found exposure to a suicide attempt by a family member or friend as a predictor for suicidal ideation in abused US adolescents (Kaplan, Pelcovitz, Salzinger, Mandel, & Weiner, 1997), also in Sri Lanka authors conclude that children might be 'learning' suicidal ideation from people around them. Children who were admitted to hospital after suicide attempts seemed to have been surrounded by people who have previously attempted suicide. In interviews with 85 patients on the general medical wards, more than 90 percent stated that they knew someone who had harmed themselves and 90 percent knew someone who had killed themselves (Hawton & Catalan, 1987). Authors also stress the harmful impact of heavily politicised teachings of the Sri Lankan liberation movements that engage children as potential suicide bombers, emphasising glory of death and the joyful afterlife that awaits those who sacrifice their lives for the 'right cause' (D. J. Somasundaram, 2002).

2.8.6. Moral development & cognitive schemas

Children living in conditions of political violence and war have been described as "growing up too soon" and "losing their childhood" (N. G. Boothby & Knudsen, 2000; UNICEF, 2005, 2006) Researchers have noted that traumatised children assume greater life responsibilities and confront greater moral dilemmas regarding their own lives than their controls, this might result in an advancement of their moral development. Levels of conscience seemed to be significantly related to the severity of PTSD symptomatology, but also with negative schematisations of self and others and lower self-efficacy rating. (Goenjian et al., 1999; Joseph, Brewin, Yule, & Williams, 1993; Saigh, Mroueh, Zimmerman, & Fairbanks, 1995). In fact, several studies document a link between sexual and physical abuse and low self-esteem (Allen & Tarnowski, 1989; Kazdin, Moser, Colbus, & Bell, 1985). Foa and colleagues (Foa & Riggs, 1993) have suggested that PTSD is likely to develop when a trauma is inconsistent with a victim's pretrauma schemas of the world as safe and herself as invulnerable, or when the trauma primes existing schemas of the world as dangerous and the self as vulnerable. In line with this conceptualisation, it is key to understand who the child 'is', when the traumatic experience happens. Pre-trauma schemas seem to contribute to individuals' meaning making during a traumatic event (Simmons & Granvold, 2005). Maladaptive self-schemas that comprise qualities such as intense fear, incompetence, unworthiness and other vulnerabilities, are far more likely to negatively impact the surviving child. Empirical findings indicate that peri-traumatic cognitive factors of mental defeat, mental confusion, negative appraisal of emotions, and negative appraisal of symptoms later affect the nature of the traumatic memory (Dunmore, Clark, & Ehlers, 1999; Ehlers et al., 1998).

There is also the discussion on ideological commitment of for example former child soldiers to a cause and its influence on mental health. A number of studies (Muldoon & Wilson, 2001; Punamaki, 1996) show a protective mechanism, associating strong ideology with good mental health in adolescents, however mainly in individuals who were exposed to low levels of political violence. A recent study among Tamil child soldiers shows that this protective mechanism only worked in the group of those who were not among the highest exposure intensity group (e.g. length of exposure, being wounded, having killed, having tortured, direct combat); again however only visible at the lowest level of traumatic experiences in the peer group (Kanagaratnam, Raundalen, & Asbjornsen, 2005). Tibetan refugee children also reported that the sense of participating in their nation's struggle against an oppressor and their strong Buddhist beliefs protected against mental health difficulties and accelerated the healing process (Servan-Schreiber, Le Lin, & Birmaher, 1998).

Cognitive appraisals of experiences seem to matter in symptom development in various forms and strong feelings of guilt and responsibility might mediate trauma symptoms. In Kanagaratnam's study (2005) personal achievement in combat, popularity, knowledge and experience acquired by being a combatant, friendship, and the support of the community were considered as the best of combat life by the youngsters; death of friends, killings of their own people, guilt of being responsible for unnecessary killings, and being confronted with morally conflicting situations were the worst experiences for most of them. Nader (1993) finds that children who reported 'hurting another human being' scored highest in terms of development of PTSD symptoms in war exposed children in Kuwait. Derluyn (2004) reports a prevalence of 97 percent post-traumatic stress reactions of clinical importance in former child soldiers in Northern Uganda, among who, 39 percent had to kill a person themselves, and 77 percent of the children had witnessed killings while in captivity.

Much detailed research is needed to understand these complex coherences. Among other, our own working group is currently assessing measures of identity, ideology, traumatic events and its relation to the development of PTSD in formerly abducted children in Northern Uganda.

2.8.7. Cognitive & scholastic impairment

Whereby cognitive and academic impairment among traumatised children and youth have been consistently documented in studies (Hoffman-Plotkin & Twentyman, 1984; McFarlane et al., 1987), the research field is still split, when it comes to the relationship of post-traumatic stress disorder in war affected children and their social and academic functioning. Whereby some authors claim little impairment in overall functioning (Kinzie et al., 1989; Sack et al., 1986), others report high rates of scholastic and cognitive functioning impairments in affected children (Elbert et al., 2007, in press; Saigh, Mroueh, & Bremner, 1997).

What research has shown is that exposure to trauma in formative years may affect the maturation of the central nervous system and the neuro-endocrine systems, with especially negative impact on the hippocampus (Bremner & Narayan, 1998; Bremner et al., 1997; McNally, 1997, 1998; Teicher et al., 1997; van der Kolk, 2003). The traumatic stress related altered cortical homeostasis seems to result in dysregulation of cognitive and narrative memory and disruptions to the limbic system result in emotional memory impairments, at times combined with dissociative experiences (De Bellis et al., 2001; Kaplan, 2002; Moradi, Taghavi, Neshat-Doost, Yule, & Dalgleish, 2000; Phillips & LeDoux, 1992; Teicher et al., 1997). Consolidation of long-term memory involves gene expression, new protein synthesis, and growth or pruning of synaptic connections. A cascade of intracellular events takes place, allowing for short-term memory to be converted into long-term memory. Before memories can be stored well at any location in the brain, they must be processed in the hippocampus. In absence of full hippocampal functioning due to e.g. elevated levels of stress hormones, especially glucocorticoids, during traumatic events, memories cannot be stored and retrieved appropriately. These neuroanatomical and neurophysiological changes peri- and posttrauma may directly decrease a child's ability to express feelings in words (Fox, Long, & Langlois, 1988; Joshi & O'Donnell, 2003; Kolassa & Elbert, 2007). In fact our working group has ascribed insular dysfunction a key role in the decoupling of emotional from language centres, leading adult PTSD victims to be caught in the 'speechless terror' of their intrusive memories (I. T. Kolassa, C. Wienbruch et al., 2007; Rockstroh et al., 2006).

Chronic stimulation of the brain's fear response in a child that lives in an abusive, violent or neglectful environment means that the regions of the brain involved in this response are frequently activated. When they are, other regions of the brain, such as those involved in complex thought, cannot also be activated and are therefore not 'available' to the child for learning (NCCANCH, 2001). Resulting from PTSD, the inability to concentrate and learn often translates into a refusal to attend school and eventual drop-out (Dodge, 1993). In a study by Duncan (Duncan, 2000) college enrolment rates continued to drop at each subsequent semester until, by their senior year, only 35 percent of multiply abused students were in attendance. Also, adolescents with PTSD, compared to adolescents who have suffered stressful experience, but did not develop PTSD, show to have significantly lower scores on standardized achievement test compared to their controls (Saigh et al., 1997). A study by McFarlane and colleagues (McFarlane et al., 1987) shows that 17,6 percent of surveyed children after a natural disaster were underachieving educationally after 8 months, this figure had risen statistically significant to 24,5 percent at 26 months. The underachieving children were also those with the highest symptom scores and with the most days absent from school, reporting headaches, stomach-aches and feeling miserable and worried as important sources of absenteeism. Perez & Widom (Perez & Widom, 1994) show that child abuse and neglect represent significant risk factors for poor long-term intellectual and academic outcomes, e.g. lower IQ and reading ability. Findings of low IQ in traumatised children were described also in Mannarino and Cohen (Mannarino & Cohen, 1986). In a study population of Australian children referred for sexual abuse evaluation, over one quarter of children showed problems with intellectual impairment or academic under achievement (Jones et al., 2004). Besides studies on lowered mean IQ, the fact that ADHD is often diagnosed together with post-traumatic stress disorder, especially in sexually abused and maltreated children (Weinstein et al., 2000), might indicate the additional handicap for sufferers to be unable to concentrate and focus their minds during class. In his book 'Scarred minds' (D J Somasundaram, 1998; G. van der Veer et al., 2003), as early as 1993 Somasundaram presents a listing of psychosocial problems in adolescents, sampled from six different schools and colleagues across the war affected Northern-Eastern educational zones of Sri Lanka. Within this study, 28-65 percent of children report loss of memory, 33-60 percent loss of concentration and 35-60 percent loss of motivation to achieve in education.

A further developmental consequence while growing up in war circumstances, especially on children's intellectual development is the interplay of chronic malnutrition, depletion of households of toys, books and other opportunities for self-directed learning and achievement, in addition to interrupted schooling and parent's exhaustion, which limits educational and inspirational time spent with their child (Dyregrov & Raundalen, 2003).

In an exemplary study (Elbert et al., in press), our working group undertook cognitive and memory tests in a sub-sample validation group of 67 Tamil school children residing at the time in the LTTE controlled areas of North-Eastern Sri Lanka, besides psychometric testing for psychiatric disorders. This region had been affected by two decades of civil war at the time of assessment in 2002. All traumatised children with a diagnosis of PTSD in the sample reported lasting interference of experiences with their daily life. The neuropsychological testing and the investigation on school grades validated mental health outcomes further and accentuated some specific cognitive problems associated with post-traumatic stress disorder. The Rey-Osterrieth Complex Figure test revealed that children generally copied the figure nearly perfectly, however traumatised children, with a diagnosis of PTSD, were significantly less able to recall the different elements of the Rey-Figure correctly. The deficiency in memory functions was further supported by the MP-test for incidental learning. Children without PTSD diagnosis assigned a statistically significant average of 5.9 objects correctly, whereas the traumatized children managed to correctly place only 4.5 objects out of the ten. In fact regression indicated that performance decreased with the number of traumatic events experienced by the child. The children's grades in school, when averaged separately for the two groups and across disciplines, reflected that the problems in functioning are mental in nature, with a focus on deficit in the verbal abilities. This result was further supported by the teachers' ratings on how well children with or without PTSD comprehend Tamil and English. Comparatively, there was no such difference in the rating of overall physical abilities (e.g. school grades sports or handicraft) and in the ability to make use of mathematical skills.

3. PROJECT-LEVEL INTERVENTIONS

3.1. THE CURRENT CONTROVERSY

3.1.1. Psychosocial Assistance or Mental Health Services?

Mental health care interventions from the acute aftermath of a 'complex emergency', such as armed conflict to the stage were so-called 're-settlement and development' sets in, are still a novelty and remain highly controversial. Psychosocial assistance is offered more frequently, but also here opinions strongly diverge. The controversy is about best strategies and best practices for implementation and even its necessity at all. Issues of prioritisation also play a key role and common debate themes have been highlighted by experts, such as "aren't psychosocial needs something of a luxury, until basic food, health, shelter and security needs are fully met?" and "aren't efforts better directed to support economic recovery of households?" (Ager, 2002; Fernando, 2004; UNHCR, 2000) Furthermore the environments in which such program interventions operate are complex and challenging:

> "Most of these are in countries torn and impoverished by war, crippled by debt repayments and where the resources available for basic health care and education may be woefully inadequate. It is against this background that one asks how best humanitarian aid can be delivered to have the maximum benefit for children and families?" (Yule, 2002)

A mapping exercise in Sri Lanka revealed that more than 71 projects were running on the island in 2001 under the title 'psychosocial'. They included activities such as: provision of explicitly psychological or medically therapeutic services, e.g. psychological counselling; awareness raising and psycho-education; interpersonal skill development, like better communication; community development; social activities, e.g. theatre; mobilisation of social networks, like children's clubs; practices for early childhood development; skill training to improve material security, such as vocational training; provision of food or landmine recovery; strengthening of spiritual dimension; counselling training for community helpers, e.g. midwives; trainings on women and children's rights and protection and improving links between service providers. (Galappatti, 2003)

The diversity of activities, which are subsumed under 'psychosocial', reflect the difficulties in developing a shared definition and roots in the sometimes bitter global debates about the very nature of psychosocial effects of conflict. The most influential perspectives on psychosocial interventions can be categorised as follows: psychiatry, counselling psychology, social psychology, developmental psychology, social/medical anthropology and traditional indigenous knowledge (Ager, 1999; Galappatti, 2003). In the recent past the fields of neuroscience, public health, refugee studies and others have been added. Each of these fields has particular theoretical assumptions, concepts or preoccupations that frame its understanding of psychosocial impacts. This explains why projects differ fundamentally in their notions about what constitutes a psychosocial problem, an appropriate intervention and a successful outcome.

> "...with the major battles being waged between positivist psychiatry/biomedicine and the constructivist perspectives commonly associated with social and medical anthropology. The fundamental differences in how these disciplines view human experience sometimes make the reconciliation of these perspectives seem impossible." (Galappatti, 2003)

'Mental health' approaches are often subsumed under the category 'psychosocial', stand alone however they tend to focus on explicitly 'psychological' consequences of war or armed conflict. Mental health services use frameworks borrowed from psychiatry, clinical psychology, counselling, primary mental health care and at times pharmacological interventions. In their classic form, mental health services are still viewed as incompatible with community development approaches, which rely on insights from social psychology and anthropology. In its attempt to offer options of mapping the various effects of conflict, to chart its causes and identify specific areas of intervention, the PWG (Psycho Social Working Group) adopted a broad framework of the *'universe of psycho-social',* with *4 major domains* (see Fig. 7): 1) Human Capacity; 2) Social Relationships & Environment; 3) Material & Physical Situation and 4) Culture & Values (Psychosocial Working Group, 2003).

The 'Universe of Psycho-Social' – 4 Domains

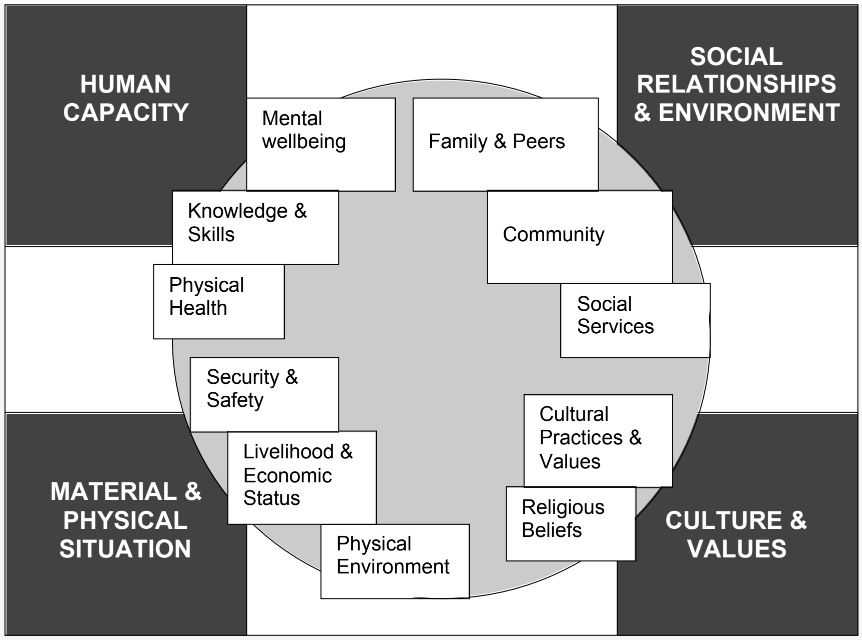

Fig. 7 (Galappatti, 2003)

Even though experts often make decisions for affected populations and battle over 'best approaches', if allowed to be involved in decision making about investment on type of resources and infrastructure rehabilitation, local populations tend to have clear views themselves. In 1999, under a UNDP rehabilitation and regeneration project, remote Cambodian communities were allocated funds and the inhabitants were asked to select matters requiring priority attention. Interestingly people considered that attention to psychosocial problems was the most important matter needing to be dealt with in the social affairs category. The experts who where responsible for the development of this particular community-based program, finally involving a large referral system of grass-roots workers, self-help groups, local health centres, local NGOs and district hospitals, concluded:

> "The villagers were evidently aware that many of their difficulties in working, maintaining relationships, problem-solving and preventing conflicts had a psychosocial basis...if people are to participate in national reconciliation, reconstruction and development, they must first regain their mental health. Development and growth cannot be expected to occur unless members of the population are well motivated,

> possess self-esteem, can maintain friendly relationships, are at peace with themselves and the environment and are confident enough to achieve their potential." (D J Somasundaram & van de Put, 2006)

Also, despite accumulating evidence of the disastrous mental health implications of war, conflict, displacement, organised violence on the minds and lives of the civilian population, little scientific gains have been made in finding evidence-based public mental health and population-based solutions. Especially the multi-dimensional relationship between health, conflict, human rights and humanitarianism remains scientifically unexplored. As the editor-in-chief of the newly created journal 'Conflict and Health' put it for the entire field:

> "One of the most controversial issues within the humanitarian community is the use of evidence to inform humanitarian responses...For several reasons, including ethical quandaries; philosophical differences; lack of infrastructure; and a lack of funding; the humanitarian field has been reticent to apply methodological principles in data collection and application. However, without the development of an evidence-base for interventions, we cannot be sure if our actions result in more benefit than harm for the vulnerable populations we work for." (Singh, Orbinski, & Mills, 2007)

Up to today, the evidence base for the efficacy of non-specific psychosocial interventions in post disaster settings is widely lacking (Barenbaum, Ruchkin, & Schwab-Stone, 2004) and therefore also the base of justification for lobbying ever increasing resources. Would mental health care solutions alone be able to provide better results? Should resource investment be diverted here? There is no proven unifying framework of best action that has been endorsed by a majority of leading policy makers, experts in the field and/or academia and UN agencies yet. As a first attempt, the "IASC Guidelines" - focussing on psychosocial rather then mental health interventions in the immediate aftermath of emergencies - have emerged in February 2007, presenting recommendations from humanitarian work carried out so far (Inter-Agency Standing Committee (IASC), 2007).

3.1.2. Are 'Western Psychiatric Concepts' valid?

> "Nowhere is it more important to question the stereotype presentation of children as resilient more than in the war area. This is not to say that a majority of children end up as psychiatric causalities, but many continue to live with various posttraumatic problems that affect their functioning." (Dyregrov, Gupta et al., 2002)

Even though, in post-emergency settings, rates of PTSD and its co-morbid disorders, such as depression, anxiety, substance abuse, suicidality and psycho-somatic illnesses, affecting at least every sixth individual, sometimes every other individual, have been found endemic among adults (de Jong et al., 2001; Karunakara et al., 2004; Mollica et al., 2001; Momartin, Silove, Manicavasagar, & Steel, 2004) and children alike (C Catani et al., 2007; Elbert et al., 2007, in press; Lauterbach et al., 2005; Thabet, Abed, & Vostanis, 2004; Thabet & Vostanis, 2000), critics still doubt the *cultural relevance and validity of 'western' diagnostic criteria*. Experts, mainly based in Western countries, continue to express views such as, "symptoms [of PTSD] associated with a disorder in one culture are not necessarily indicative of that disorder in another culture" (Ager, 2002) and deny the relevancy of psychiatric categorisation (Fernando, 2004; Lykes, 1994; Summerfield, 2001). Examples are given, such as a study in Nicaragua, which found that "three quarters of those people showing enough symptoms to diagnose them as suffering from PTSD were basically well adjusted. They were suffering, but apart from that they were functioning well." (P. J. Bracken, Giller, & Summerfield, 1995; Sack et al., 1999)

Local practitioners however have different, often unheard views about the matter. Here a quote by Daya Somasundaram in direct answer to the Bracken statement above:

> "In Sri Lanka and Cambodia things were different. In Sri Lanka we see high percentages of malfunctioning, like withdrawal from play in 30-39 percent of pre-school children, decline in school performance (60 percent), cruel behaviour (30 percent), anti-social behaviour (44 percent) in primary school children and cognitive impairment such as loss of memory (28-65 percent) or loss of concentration (33-60 percent) in adolescents. In the Cambodian communities...between 10-20 percent of all families were not functioning normally by their own standards. The dysfunction of these families includes neglect of children and overwhelming feelings of hopelessness. Some of these families were caught in a vicious cycle of depression, poverty and more depression." (G. van der Veer et al., 2003)

Local experts also describe how they were criticised for *'psychologisation'* and *'psychiatrisation'* (Summerfield, 1996) of Bosnian refugees during the war in Croatia and Bosnia:

> "We understood that it is justified to argue that human psychological suffering should not be perceived as a psychiatric issue and that during resettlement the main needs of refugees all over the world are material and social. We also understood that the quality of the post-traumatic environment is extremely important for adaptation.

> However, it was clear to everyone working with the refugees and displaced persons [during the Kosovo war] that, given the same experience of traumatic events and living under the same objective social conditions, people who psychologically coped better than others were able to provide social resources that were vital for themselves and for their families, whereas those that could not cope psychologically with the traumatic experiences needed intensive psychiatric help." (Kozaric-Kovacic, Kocijan-Hercigonja, & Jambrosic, 2002)

In 2003, UNICEF and the organisation 'Safe the Children-SCF', the two largest providers of child support interventions globally, adopted a new policy in respect to psychosocial programming, based on the overwhelming experiences during the Kosovo war. The new policy shift informed their intervention methodology*:*

> "...the basic premises of the [organisations'] approach now is that practitioners will start at the bottom of the triangle of the war-affected group. They will assume that the majority of the population has the resources to cope with their suffering...a base line survey should identify weaknesses in coping resources [among the most vulnerable] and seek to improve these. Such an approach looks at identifying the positive, understanding and sustaining it and therefore avoids pathologising the population." (de Berry, 2004)

Aligned with this logic, the "conceptual model for psychosocial interventions in social and humanitarian crisis" developed by the United Nations and International Society for Traumatic Stress Studies with the help of senior trauma experts (Fairbank, Friedman, de Jong, Green, & Solomon, 2003) shows an inverted triangle with five interrelated levels of intervention descending: societal, community, neighbourhood, family and individual. Somasundaram explains:

> "The bottom layer of the pyramid concerns interventions designed for the individual with psychological, medical and psychological treatments which are the most expensive and labour intensive approaches that require highly trained professional staff." (D J Somasundaram, 2007)

And a number of researchers echo his statement; here a respective quote:

> "Individualised treatments in the post-trauma period are usually not feasible as a first-line strategy, especially considering the shortage of mental health professionals and greater costs as compared to group interventions. Immediate relief operations can start with non-specific interventions." (Barenbaum et al., 2004)

Are such statements justified? As of today, no large-scale cost-benefit analysis has been carried out comparing investment in individual trauma treatment for severely affected children and their parents by specifically trained lay counsellors with the impact and comparative resource consumption of large general non-specific psychosocial activities, such as play activities or re-establishment of traditional healing practices for all. May be there are not enough short-term treatment interventions for various mental health problems in existence, which can effectively be applied by local lay people; hence the solution is sought in societal level interventions? No doubt, it would probably be ideal to be able to tackle all levels of this pyramid in terms of beneficial interventions. Today's reality in post-conflict or crisis settings however is characterised by fierce competition over very scare resources.

The policy of 'starting psychosocial interventions at the bottom of the triangle' was also responsible for the decision by UNICEF and SCF to implement a *'resource-based, rather than mental health-based'* project in Afghanistan:

> "we believe that recognising the capacity that had allowed Afghans to confront, bear and survive the past quarter decade of loss and destruction would acknowledge the resilience and coping that already existed in Afghan social life. Building on this would *prevent the portrayal of Afghans as in desperate need of specialised medical intervention* to the detriment of acknowledging their ability to survive and cope." (de Berry, 2004)

In the psychological research community, the focus on "resilience of the majority [of children]" versus the "suffering of the minority" has been recognised as gone too far already in the mid-90s (Cairns, 1996). In the humanitarian aid community however, statements such as the above, are still commonly made. The clash between 'trauma' or 'resilience' based approaches is fought very much on the grounds of 'we know what is right for the populations we serve' and expert positions are easily detectable by the choice of wording, which is used:

> "the 'resilience discourse' often includes a *right-oriented approach* associated with interventions that *respect* and *protect the rights of the local culture and traditions*, whilst the 'trauma discourse' is associated with *application* – and sometimes *imposition – of western, medically oriented* interventions." (I Agger, 2000)

This provokes a number of relevant questions: What constitutes a rights-based approach? Why can a mental health intervention not be developed in a community-based and resource-oriented way, involving the family and community of the children? Why would a focus on traumatic stress in programming prevent the acknowledgement of resilience and coping? As of today, there is no ‘medical’ treatment of PTSD, the most commonly found psychological disorder in children who have survived a war. What do authors have in mind when they talk about ‘intensive medical solutions’? Why there not be culturally sensitive approaches in the context of PTSD treatment? Further, why would the decision, which is in a big part a large financial decision[9], to ‘relief the mental health system’ fall in favour of a social intervention, when obviously the mental health system itself needs strengthening? And most importantly, do the majority of children, who seem to cope well really need non-specific psychosocial assistance? Is there any empirical evidence of its benefits? And is possible waste of precious resources accounted for?

Dyregrov and colleagues states this point of view directly:

> “...we have come across another form of denial of trauma. This takes place within UN agencies and non-governmental organizations. It can have a disguised form or be more outright. We believe that this denial is a mechanism that protects international aid workers, politicians and the international community at large. When the international community is unable and helpless preventing atrocities and massacres in war situations, it becomes important to reduce the feelings of helplessness, impotency and guilt that such situations create. Societies lack the capacity to deal with the ramifications of the traumatic events they produce....If the international community is able to say that children are not traumatized, and that the natural healing systems within their cultures, as well as children’s inborn resiliency, will heal their emotional wounds, then we don’t have to assume responsibility or we can do away with our guilt feelings.” (Dyregrov, Gupta et al., 2002)

Child psychiatrist W. Yule, in trying to mediate this expert controversy states his opinion in a practical manner:

> “Some people may well protest that it is *‘pathologising’* or *‘medicalising’* these experiences [of children who survived war] to be talking about stress reactions at all, let alone talking about PTSD. It has been noted that there are wide individual differences in response to stress and by no means all children exposed to a life threatening experience go on to develop PTSD...While recognising that most of these reactions are ‘normal’ in the sense of being understandable, they still require that action be taken by those in authority to alleviate the children’s distress. Diagnosis and labelling are but means to mobilising the needed resources...while it is true that

[9] In Sri Lanka after the tsunami UNICEF spent more then USD 2 mio on toys, play activities, bicycles and motorbikes for psychosocial assistance (personal conversation with UNICEF project officer, Post-Tsunami Meeting at the National Institute of Education Colombo, January 2005).

from the point of view of understanding development it is good to focus more on invulnerable and resilient children, it remains the case that vulnerable ones require help. The stress reactions are not merely transient phenomena that settle down quickly once a child feels safe and secure. That may happen, but in the case of children exposed to war, the long term effects can continue for many years." (Yule, 2002)

3.1.3. Individualistic versus Collective Society

There is another argument, which is often used against the 'western, scientific medical illness model' perspective, the *'individualistic versus collective society'*. In this view, non-western cultures are defined as 'collectivist' and have traditionally been family and community oriented, whereby the individual tends to become submerged in the wider context.

> "The individual becomes embedded within the family and community so much so that traumatic events are experienced through the larger unit and the impact will also manifest at that level. In collectivist societies, the family and community are part of the self, their identity and consciousness. The clear demarcation or boundary between the individual self and the outside is not that distinct. For example Tamil families, due to close and strong bonds and cohesiveness in nuclear and extended families, tend to function and respond to external threat or trauma as a unit rather than as individual members. Thus the family tends to think, feel, experience and respond together...Thus it may be more appropriate to talk in terms of family dynamics rather than of individual experiences. " (D J Somasundaram, 2007)

It is argued that, since PTSD is a diagnostic criteria, assigned to an individual, afflicting the individual self, with the traumatic event impacting on the individual psyche to produce PTSD, the model might not fit people from a 'collectivist' society, since the 'sick' self extends beyond the individual. What is suggested instead of a 'trauma focussed approach' is therefore a *psycho-social-ecological model* of intervention (de Jong, 2007). Such argumentation assumes that families and communities have to be helped to recover and the individual will follow.

> "A community-based programme to rebuild the damaged family units and social structures, networks, resources and relationships encourage re-establishment of helpful traditional healing rituals and practices; group meetings and functions, in short to start the community working again appeared to be more judicious. When the *family and community regained their function, individuals recovered* their confidence, motivation, capacity and skills." (D J Somasundaram, 2007)

The argument that in addition to the sum total of individual trauma, there are impacts at the supra-individual family, community and social levels that produce systemic changes in social dynamics, processes, structures and functioning (D J Somasundaram, 2007) is well comprehensible. Does this however justify that service provision has to tackle the psycho-ecological level instead of the individual, psychological first and foremost? Isn't such argumentation mixing up coping, the construction of meaning and social support with healing of the individual psycho-biological consequences of trauma? Can one strategy replace the other? How far are psychologically affected individuals actually able to access services and make gains from community rehabilitation programmes? Somasundaram (2007) answers this quandary himself by quoting authors who describe the situation of Hiroshima survivors:

> "There is a general sense of resignation to fate. People have developed dependence on help form outside sources…this dependence hampers all rehabilitation and development efforts. People no longer feel motivated to work, or better their lots…Even within refugee camps, people did not show interest in self-help programmes like vocational training and income generating projects. Outside camps people appear to have resigned themselves to just surviving…They seemed to live a half life, as though they were 'walking corpses' or the living dead."

And further:

> "Indeed community mental health programmes that do not include the possibility of addressing the problems of those with severe mental disorders would fail in the eyes of the community and cause a breakdown in the smooth functioning of it….however it was not feasible to treat the large numbers with western psychiatric treatment."

So, is the argument that it is the western psychiatric treatments that do not work in the 'collectivist' child or adult suffering from trauma, or is the problem, that no evidence-based public mental health models of effective short-term trauma treatment, applicable to large numbers have been developed?

As a case study in time, the "Mental Health Initiatives as Peace Initiatives in Sri Lankan School Children affected by Armed Conflict Project" has been implemented as early as 1993-1996 (Chase et al., 1999). This project was the first psychological initiative in the North-Eastern provinces of the island. At the time it was assumed that 500.000 children were directly or indirectly affected by the conflict in those provinces (Chase et al., 1999). A school-based survey was carried out, focussing on communities where war atrocities and massacres had happened. Results showed that 58 percent of children had experienced direct combat (especially shooting, bombing and shelling) and 25 percent had been violently assaulted among other traumatic events, such as domestic violence. One fifth of the interviewed children presented with a severe Post-Traumatic Stress Reaction and equally one fifth suffered from suicidal ideation. Depression symptoms were more than double in those scoring high for PTSD. (Chase et al., 1999) A report was drawn up by the research group advocating for *"participatory, non-medicalised approaches to respond to the psychosocial need of the children"*, omitting any mental health recommendations to deal with the seriousness of the situation given the high rate of trauma and depression. Recommendations consisted instead of practical ways to mobilise appropriate resources at a community level, highlighting the particular role of the education system, teacher training, curricula and school policies such as corporal punishment practices. The final project resulted, among other small scale initiatives, in the resource-intense build-up of a so-called 'Butterfly Garden', offering after school programs for 150 selected children:

> "The site is established as a 'peace zone', to provide children affected by armed conflict with a sanctuary where they can heal through engaging their creativity in play, artwork and earthwork. By making and mending in the Butterfly Gardens they can become healers in their communities and in the world at large." (Chase et al., 1999)

A proud goal and surely formulated in the project implementers best intentions. However an independent program evaluation in early 2002 recommended the closure of the project. The investigators found that even though the 'Butterfly Garden' intended to 'heal trauma', no criteria for enrolment of traumatised children were set, no individual or group treatment schedule was prepared and no post-test was carried out, showing the remission of traumatic stress related symptoms. The evaluation also showed that a sizeable amount of financial resources had flown into one centre, able to care for approximately 150 children for a few hours a day. However based on the survey, more than a third of the child population in the affected North-Eastern communities needed mental health related services able to treat severe psychiatric illnesses, such as PTSD, depression and/or suicidality among numerous other problems of a psychological and social nature (Chase et al., 1999).

In counter argument to such non-specific interventions, senior scientists of the Board of Directors of the Children and War Foundation, Bergen/Norway, decided on June 22, 2006, that they would place

> “more emphasis on advocating that *children in all parts of the world should benefit from the trauma knowledge gained during the last decades*. This knowledge has been put to use in the follow-up of children in most western affluent countries while *debates over the cultural relevance of trauma knowledge used outside of Western countries has blocked this knowledge from reaching many children in less affluent countries*.” (Children and War Foundation, 2006)

3.1.4. The Concept of ‘Non-Interference’

> *“How can an organization know that it is adhering to the objective ‘to do no harm’ if it does not have evidence to substantiate its arguments? And how would it know that by adopting an approach of non-intervention that it would not be doing even more harm?”* (UNHCR, 2000)

Critics of trauma knowledge transfer to non-western cultures frequently assume that “*culture has its own frameworks for mental health, and norms for help-seeking at times of crisis”* (Summerfield, 1999). Along the same lines of reasoning and contrary to current scientific knowledge, advice is given by one of UNICEF’s key psychosocial consultants, Nancy Baron, Director of the ‘Global Psychosocial Initiative’:

> “Children who suffer from terrible events, if they are cared for and loved, don’t become mentally ill. They do not become psychologically scared. It has an effect, however, on their social world. We have seen changes in social attitudes and inter-relations more than anything. People are incredibly resilient. We have watched children and adults manage to cope after horrific events. We have seen situations around the world that are horrific, and we have watched children and adults managing to cope. It doesn’t mean it doesn’t hurt. It doesn’t mean it doesn’t affect them. However, the consequences are not necessarily severe mental illness. What we have found is that in terrible situations, the parents will suddenly become very strong and loving towards their children. That’s just what the children need...what I would be encouraging would not be therapy, not at all. What I would be encouraging would be mothers, fathers and teachers to talk and love these kids, spend time with them, have activities that promote their feeling safe again.” (UNICEF, 2004)

With an emphasis on implementing such advise, the UNICEF/SCF Afghanistan project states: ”For such positive, resource oriented work [which is intended under the new policy shift since 2003], especially *parents* are now envisaged as a primary support giver to children.” (de

Berry, 2004) It should be noted however, that although maternal distress has an important impact on child reactions, having a caring and protective mother or father is not a panacea, and closeness to a responsible parent does not protect children form the traumatic impact of war and persecution, as parents cannot buffer their children from stress (Almqvist & Brandell-Forsberg, 1995; Barenbaum et al., 2004), a view that has ‘blandly been accepted as a truism’ (Cairns, 1996). Yule and William have repeatedly pointed out, that parents, teachers and other adults underestimate the intensity, magnitude and longevity of children’s reactions to adverse events (Yule & Williams, 1990). Dyregrov and colleagues report that reliance on adult report alone can be questionable. During interviews with children in Iraq following the Gulf war three times in the years following the war, they learned form these children that they had stopped talking with adults about their intrusive images and thoughts because they felt that adults did not understand them, or just told them to forget about their experiences (Dyregrov, Gjestad et al., 2002).

Furthermore, non-specific psychosocial strategies of social and emotional support to parents or caretakers, might be adequate for communities, where teachers, parents and other significant elders, such as traditional healers remain at least partly protected from the psychological impact of armed conflict, organised violence and forced displacement. Many of the adult community members in post-conflict settings however suffer from physical as well as mental impairment, incapacitating their normal, healthy ability to function as caretakers, providers and role models. (R Dybdahl, 2001; Dyregrov & Raundalen, 2003; Glenn et al., 2002; Human Rights Watch, 2000; Kenyon Lischer, 2006; Laor et al., 2001; Pittaway, 2004; Solomon, 1988; UNHCR, 2003; van de Put, Somasundaram, Kall, Eisenbruch, & Thomassen, 1998; Widom, 1989b)

A case study from Sri Lanka exemplifies this point. In 1991, after an intense period of armed conflict in Northern Sri Lanka, Jaffna hospital outpatient departments were receiving increased numbers of patients and it was found that more than 80 percent of patients had identifiable psychosocial problems (D J Somasundaram, 2001). A workshop was convened and local expert participants stressed the important need to build-up a new service of trauma-related counselling:

> “Many people were suffering from complaints and symptoms like attacks of fear, intrusive memories and nightmares, were much more common than before. Neither

> the traditionally available healers nor the available mental health services were able to help the affected people. Some healers were severely traumatised themselves. Because of the after-effects of their traumatic experiences, they were no longer able to help others. The traditional classification of personal problems of the healers also seemed to be ill-fitted for dealing with the problems caused by the armed struggle. Something else was needed." (G van der Veer, 1995)

And as Dyregrov rightly points out, there are some war situations that are so unprecedented (i.e. massacres, that no culture has societal healing or coping mechanisms to apply (Dyregrov, Gupta et al., 2002). However, scientifically sound intervention research is up-to-today by many considered dangerous, intrusive and by some 'immoral'. Especially critics originating from the 'west' argue that the transfer of 'western' concepts and techniques to war-affected societies in developing countries risks "*perpetuating the colonial status of the non-western mind*" (Summerfield, 1999). A questionable statement, given that denial of modern research skills and up-to-date mental health services can be considered a post-colonial attitude in itself.

The eminent Psychosocial Working Group (PWG)[10] has tried to determine central principles of a common framework for intervention. The group rightly states that

> "the events and circumstances of complex emergencies deplete the resources available to individuals and communities for engaging with the challenges they face." (Ager, 2002)

The PWG identified the loss of three sets of resources in particular, which greatly determine psychosocial well-being: loss of human capacity through death, displacement and mental illness (skills, knowledge, capabilities of the household/community); loss of social ecology (fragmentation of family, loss of peer-support); and loss of culture and values (destruction of places of worship, disruption of tradition, abrogation of human rights). According to PWG, post-emergency, the individual/community, however is in need to exactly deploy those resources in response to the challenge of experienced events. Clearly, one would argue, a gap of resources, knowledge and coping, has been detected here, which points the way

[10] Founded in 2000 by members of distinguished Universities and Organisations: Centre for International Health Studies, Oxford Refugee Studies Centre, Columbia's Mailman School of Public Health, Harvard's Program in Refugee Trauma, International Rescue Committee (IRC), Safe the Children (SCF), Christian Children's Fund and Medecins sans Frontieres (MSF) Holland.

towards development of alternative needs as well as rights-based services structures. A senior PWG member however explains:

> "Our own work in Angola…shows the very active strategies adopted by the communities…the people of Angola made extensive use of African traditional medicine and African indigenous church movements in their strategies to address their suffering…*This is perhaps the key challenge for psychosocial programs in the coming decade: deploying skills, resources and knowledge in a manner not only sensitive to but clearly strengthening of, local engagement with suffering*." (Ager, 2002)

The above-mentioned UNICEF/SCF programme in Afghanistan quotes its survey outcomes and successes in a similar way:

> "So, for example, having good morality based on religious knowledge and instruction was said to be vitally important to mental health. A child with good morality would be able to withstand traumatic events. For children with good morality can separate off the impact of conflict on themselves by having a clear dividing line between right and wrong, good and evil." (de Berry, 2004)

and

> "For example parents said that if their child was afflicted with grief and all the physical pain that goes with it, they would take them to a mullah in the mosque. The religious leader could give specially blessed amulets and extracts from the Koran to aid the child's recovery. The leader could also instruct the child in morality and belief, in being able to discern right from wrong and therefore build in the child the moral resources to understand and withstand risks and emerge with their emotional health intact." (Save The Children/UNICEF, 2003)

A final project recommendation was drawn up, summarising the experiences as follows: "*as much as possible interventions should be given as social, economic and religious assistance, through building on local, community-based coping mechanisms*." (de Berry, 2004)

Such unfounded statements, urging the strengthening of 'indigenous practices'[11] without equally urging an objective, evidence-based evaluation and development of human rights-based programs, interventions and local practices, are the status-quo. Surely, as agencies, trying to provide relief aid, humanitarian assistance and/or development aid or advice, we must respect local people's wish to access indigenous venues, such as traditional healers or

[11] whether Christian church movement is an 'indigenous resource' remains to be clarified.

accept faith-based pursuits[12], but do we really want to reinforce these traditional and religious structures, norms, values unless research proofs their efficacy at an objective level and even if it does, should humanitarian assistance be involved in re-instating indigenous practices or rather put its efforts into helping to build alternative, science and rights-based community services?

From a human rights point of view the notion of 'non-interference' in cultural traditions, norms and beliefs through psychosocial or mental health work (including all other measures of humanitarian assistance) is questionable. Protecting societies that are considered to be traditional from modern progress risks withholding knowledge and skills (also for independent research), leaving communities' dependent on the goodwill of the powerful at best (Neuner & Elbert, 2007), exploited most commonly.

The *UN Convention on the Rights of the Child - CRC* (United Nations, 1987) explicitly states government's responsibility to translate articles of the convention into practical action. The 1987 Convention established psychosocial recovery as a right of every child and a duty of providers of assistance to children. Children's rights remain, no matter how detrimental the life circumstances of children as a result of war are:

> "Article 39: state parties shall take appropriate measures to promote physical and psychological recovery and social reintegration of a child victim of any form of neglect, exploitation, or abuse: torture or any other form of cruel, inhuman or degrading treatment or punishment; or armed conflict. Such recovery and reintegration shall take place in an environment which fosters the health, self-respect and dignity of the child."

The UN Graca Machel Report of 1996 "*Report of the UN Secretary General on the Impact of Armed Conflict on Children"* (United Nations, 1996) firmly concluded that psychological recovery and social reintegration must be a central feature of all humanitarian assistance programmes. So, according to international agreements[13], *adequate psychosocial and mental health interventions based on human rights* are not a choice, but a must. And the

[12] a detailed account of traditional healing via mediums, oracles and religious leaders, in Sri Lanka, who treat mentally sick patients is given in: van de Put (van de Put et al., 1998) and Lawrence (Lawrence, 1998)

[13] this international convention, was endorsed by **all** states (including African, Asian and Latin American countries), with the exception of Somalia and the USA.

implementation of human rights in psychosocial and mental health intervention work is strongly encouraged, interestingly also by those who at the same time advocate for re-establishment of traditional and indigenous coping and healing strategies, like the Inter Agency Standing Committee (Inter-Agency Standing Committee (IASC), 2007)

Bearing the *Convention of the Rights of the Child - CRC* and the *Convention on the Elimination of all Forms of Discrimination against Women – CEDAW* (United Nations, 1979) in mind, we realise that in many of today's conflict regions of the world human rights are abused, especially *within* traditional societal settings. The majority of those populations - women and children - are subjected to a range of traditional and cultural discriminatory practices and rights abuses, such as child labour, female genital mutilation, forced and early marriage, marital rape, unequal inheritance laws, unequal access to education, domestic violence to name just a few. Along the same line of reasoning Dyregrov and colleague state:

> "There is a risk that we too easily accept culture and become too culture-relative to see that trauma in children is denied across many cultures. Those who critize the use of trauma concepts to understand and help children in these circumstances often highlight the notion that a culture has its own healing mechanisms, and that be introducing foreign (concepts) we run a risk of breaking down the natural healing mechanisms of the society. But such respect for the culture overlooks some cruel facts. Culture is not always right…If negative products of culture had not been challenged, we would still have denied sexual and physical abuse and exploitation of children world-wide; many of our taboos would continue to work as before, women would have no voting rights; and we would go on denying children the right to information concerning loss and trauma." (Dyregrov, Gupta et al., 2002)

Do psychosocial or mental health service interventions, or any humanitarian interventions for that matter, not have the duty to address key problematic issues such as traditional gender inequality and age-old stigmatisation and malpractice? Why should interventions not seek the opportunity of already happening change in the society and introduce new awareness and recognition of e.g. mental health indicators and treatment options, of women's and children's safety, health, equality and human rights? Aren't efforts of 'non-interference' or 'strengthening of indigenous practices and traditional norms' actually more 'pathologising' and in the end harmful than evidence- and human rights-based intervention?

Daya Somasundaram far from suggesting 'non-interference' voices a strong commitment of the mental health profession to take sides, to speak out:

> "We may feel rather weak, and helpless as far as decision making or finding a solution [to violence and conflict] is concerned…However as health professionals we cannot remain silent, we need to consider the ethics and take principled stand for victims and society. The medical profession has a powerful and persuasive voice…Studies and surveys of the consequences of war can be very useful for advocacy and persuasion of authorities to use more peaceful methods to solve conflicts. Or, this can be in our day-to day dealings and contacts, where we can take principled stands on issues and express our concerns, for example on issues such as landmines, child soldiers and torture. Another area of intervention, both for prevention and reconciliation, is at the national level, by influencing policy making, rehabilitation and international aid programmes." (D J Somasundaram, 2006)

And he continues to outline how treatment of those in the population who are afflicted with psychiatric disorders, stemming from this violence, can be considered prevention in itself. Reliable mental health data and evidence-based interventions are powerful political tools. It is indispensable that data collection and the development of services include a science-based human rights focus. Mental health professionals are a voice for victims beyond their often so painfully experienced 'speechless terror' and like it or not, they are advocates of human rights beyond cultural values and norms. In contrast to Somasundaram's brave stand (Hoole et al., 1992; D J Somasundaram, 1998) psychosocial services are often characterised by a consciously chosen 'non-political' approach, that seems at odds with the notion of demonstrating solidarity with survivors, favouring their testimony and affirming their right to justice and social change.

And even though little researched, there is also *indication of positive and constructive changes in traditional society after 'collective trauma'* in Sri Lanka:

> "there were the emergence of new community organizations, particularly with active female participation, enhanced female role and leadership, and a breakdown in caste barriers and hierarchical structures…" (D J Somasundaram, 2007)

Research into such key development issues, away from traditional patterns of inequality towards more human rights-based societal ways of living post-conflict is almost entirely absent yet, however the re-establishment of traditional roles and habitual patterns of behaviour after crisis is often seen as a goal for agency that supposedly aids the recovery process of individuals and communities.

3.1.5. The Absence of Efficacy

Few (R. Dybdahl, 2001; Saltzman, Layne, Steinberg, Arslanagic, & Pynoos, 2003; Yule, 2000), if any of the existing community-based psychosocial intervention programs have been tested for efficacy or were developed and implemented in an evidence-based manner. To date there have been no studies comparing various community-based interventions programs with each other. The war in Yugoslavia, for example, has seen the implementation of numerous psychosocial programs, however just like in other crisis regions, as Dybdahl (2001) points out, “these programs rarely underwent rigorous evaluation because the need for action outweighed the importance of research”. Some authors cite the daily dangers and harsh circumstances (e.g. no electricity, weak personal security) under which such interventions are implemented as reasons for not meeting the demands of a scientifically strict evaluation methodology (Mooren, de Jong, Kleber, Kulenovic, & Ruvic, 2003). Even if evaluations take place, they are usually project related, meaning they focus on whether the project itself was implemented as intended and are missing the clear identification of factors/predictors, leading to e.g. a person’s or community’s mental health recovery and the ways in which the intervention has contributed to that or has actually aggravated suffering (Fernando, 2004). Dybdahl (2001) states frankly: “the effects of the intervention were impressive…*How* the intervention worked, however, is unknown, and more research is needed to investigate the working factors in this approach.”

Since psychosocial programs do not discriminate support based on categories of mental ill-health, enrolment to programs is usually population-, often access-based. The inherent danger of such an approach however is that hypothesis of resilience are derived from such selected population samples and precious resources are not used in the most effective manner. Dybdahl’s (2001) program for example which measures rates of recovery and ‘healing’ of mothers and children in a post-war intervention in Bosnia Herzegovina, describes:

> “the children [in the sample] showed evidence of some posttraumatic reactions and psychosocial problems, but few could be diagnosed clinically ill. It should be noted that this resilience, in spite of the presence of symptoms as well as other psychosocial problems, does not indicate an absence of distress but rather the majority managed to cope and function in everyday life.”

Furthermore, as the Children and War Foundation (2006) aptly puts it: "each conflict or disaster occurs in its own unique cultural context." From our own organisation's work[14] in countries culturally as diverse as Afghanistan, Uganda, Rwanda, Sri Lanka, Ethiopia, Somalia, Kosovo, Romania, we know that unless the planned intervention starts off with a carefully composed epidemiological, population-based survey, little effective programming can follow. We regularly find social conditions, beyond children's traumatic war experiences, such as child labour, domestic violence, active abuse, parental drug taking among many other, all of which are of key importance for consideration when developing an appropriate intervention programme (C Catani et al., 2007; Odenwald et al., 2005). Most often however, there is a complete absence of empirical data collection at start, looking at characteristics of the beneficiaries (individuals, groups, community), as well as the characteristics of their environment. Even less we can see systematic approaches of variation of psychosocial conditions (e.g. comparison of type of counselling offered or vocational training versus psychotherapy). Even if data is collected initially, mid- to long-term follow-up is blatantly absent, thereby missing out on the opportunity to describe actual impact of the intervention on course of recovery and social change of e.g. remission of symptoms, community coherence, child development.

Beyond the absence of a common framework of best practices many challenges remain for those who want to approach the development and implementation of interventions in an evidence-based manner. One is the environment in which we operate. When we try to develop a humanitarian mental health response in a post-emergency setting, it is usually located in a region, which harbours deep-seated conflicts over decades. Interventions aiming at mental health are competing for resources and with development priorities regarding numerous human rights and security indicators at all levels. In Sri Lanka, all international experts were asked to leave, when the armed conflict re-intensified in the Northern East in January 2006, and even local expert staff relocated to safer cities in the South or took work appointments overseas. Very little capacity remained on the ground, even today, at times of greatest need.

[14] www.vivo.org

Another challenge to evidence-based intervention is time. Many times the child populations who we try to offer services to are on the move. ‘Home’ is often a Displaced People’s Camp, a Cross border Transit or Refugee Camp. Service structures need to be build-up nevertheless, however it is challenging to extend individual services, which last several weeks if not months. Drop-outs and lost to follow-ups are inevitable. Changes in well-being are often observable over time and if treatment interventions are long-lasting, it will be impossible to separate changes in life circumstances, such as increased poverty and hunger, sustained high stress, acceptance of refugee status, school enrolment, from treatment effect. Individual counselling or treatment spanning several months is also ethically questionable in terms of its resource consumption and selectivity in circumstances of such collective need.

So what is the task at hand and how can we bring it all together? Should mental health disorders be the first order priority in complex emergencies, targeting symptom reduction and reinstatement of individual functioning? Or should the project focus be on reduction of poverty and enforcement of re-integration issues? Should re-building of local resources, strengthening of traditional coping strategies and pre-existing systems of self-reliance be the most important focus? Are broad population-based psychosocial programs enough or should we recommend the build-up of mental health structures that can treat the most severely affected individually? In targeting children’s mental health should we deliver services to children directly, to their parents or teachers, or to children and caretakers simultaneously?

3.2. The school-based Best Practice Model

In the years 2003-2005 a school-based psychological cascade model was implemented by the Ministry of Human Resource Development, Education & Cultural Affairs – BESP and the Provincial Ministry of Education, Cultural Affairs, Sports & Youth Affairs North East, with the logistical support of German Technical Cooperation (GTZ) Sri Lanka and the technical support of the NGOs Shantiham in Jaffna and vivo international. This chapter tries to outline the key steps, which were taken and the conceptual framework, which was developed and co-implemented by members of vivo, under the author’s coordination. Local key experts, who among others, greatly carried the implementation of this ambitious project forward are: Mrs Kohila Mahendran, Mr Sundaram Divakalala, Prof Daya Somasundaram and Dr Sivayokan.

3.2.1. Situational Analysis

In March 2002, immediately after the long awaited ceasefire between the LTTE and Government had come into existence, two senior researchers from the University of Konstanz and the NGO vivo[15] were invited to analyse the situation of traumatized children affected by war and violence in the North-Eastern provinces of the island, and the Vanni Region. Existing programs by GTZ's Basic Education Sector Program[16] and the Ministries, designed to support the most affected children, were assessed by the team, via individual clinical child interviews, focus group discussions with parents, teachers, community leaders and policy makers. The outcome was presented to donors, Bilaterals, UN agencies, as well as the various designated Ministries and included detailed recommendations for further strengthening of local expertise in psychosocial work.

As a key recommendation, the mission proposed the implementation of an epidemiological survey to be carried out in the LTTE controlled areas of the North-Eastern part of the island, in order to get accurate data on selected child mental health indicators, which would allow for informed planning of child support services.

3.2.2. Epidemiological survey

During the months of April to November 2002 the survey was implemented by members of vivo/University of Konstanz, Germany[17], with the logistical support of GTZ to understand the ways in which war and displacement have impacted on the children's mental health, as well as their school performance, family life and social-emotional functioning. Detailed findings of this survey are presented elsewhere (Elbert et al., in press), however some key outcomes, which largely determined the nature of the stepped-care model which was developed as a result of the survey findings are presented here:

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[15] Prof Dr Thomas Elbert, Professor for Psychology and Behavioural Neuroscience, University of Konstanz, Germany and Dr Maggie Schauer, Coordinator of the Psychological Outpatient Clinic for Refugees, Department of Clinical Psychology, University of Konstanz, Germany

[16] directed by Dr Michael Hirth at the time

[17] Bianca Huschka, MA candidate in Clinical Psychology, carried out most on-site training of interviewers; she was scientifically supported by Prof Elbert, Dr Maggie Schauer and Elisabeth Schauer during planning, conceptualisation and validation activities.

- the survey revealed that almost all children had experienced severely traumatising events, such as combat, bombing, shelling or witnessing the death of a loved one;

- about a quarter of children met the criteria for a diagnosis of Post-Traumatic Stress Disorder (PTSD);

- traumatised children reported lasting interference of these experiences with their daily life, which was supported by poor outcomes in neuro-psychological memory testing, lower scores in school performance and social withdrawal;

- depressive symptoms, suicidality and poor physical health were frequent in these children;

- a majority of local teachers, with a brief, but substantive training could achieve valid results in the application of structured interviews and were extremely motivated to do so;

- a follow-up validation by expert interviewers confirmed initial findings of teachers and validated the Tamil translation as well as the cultural adequacy of the interview questionnaire.

3.2.3. Conceptualisation

Key findings of this survey, a) that a quarter of children were severely psychologically affected, b) that local teachers were motivated and capable to recognise children who are in need of mental health services, as well as the fact c) that almost all children in Sri Lanka are actually enrolled in school and can therefore be reached by a school-based intervention, paved the way for the vivo team to suggest the implementation of the following large-scale, school-based service structure:

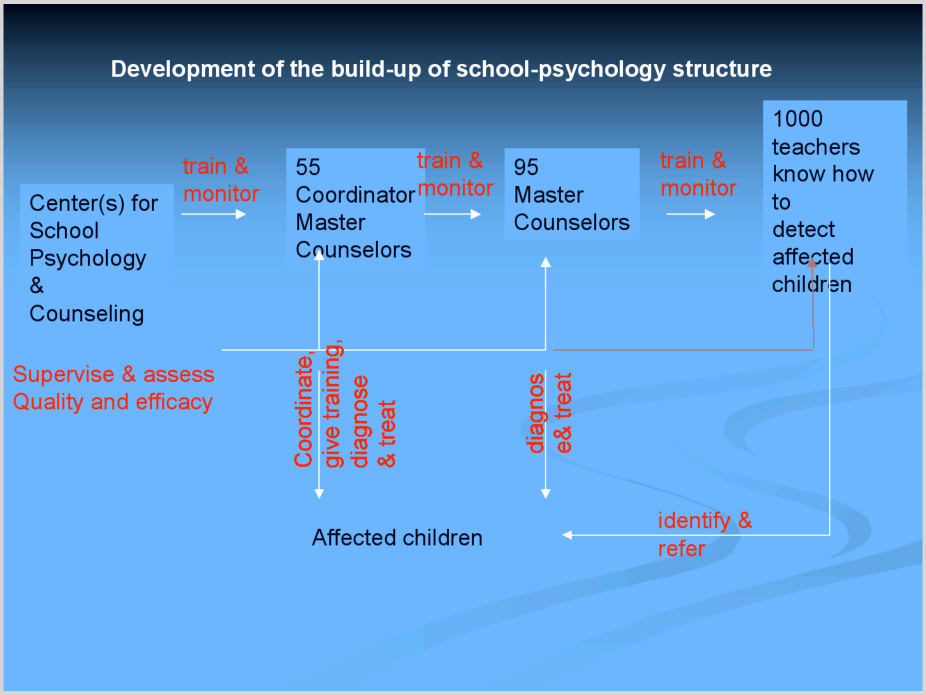

Fig. 8 Proposed ‘Cascade Model’ of School-based Psychosocial Care

Intervention objectives were formulated as follows:

A) Overall Objective: Development of a school-based psychological service structure for affected children throughout the North-Eastern war-affected provinces, closely linked to children’s caretakers, community and social environment through a cascading referral structure.

B) Specific Objectives:

1. Development of a body of skilled counsellors and supervisors (“Master Counsellors”, N=150) from within the teaching body with general counselling skills and the added competency of treating traumatic stress related disorders, able to extend their knowledge via trainings and supervision to a wider group of teachers (“Befrienders”, N=1000), enabling them to recognise and refer affected children and link closely with the caretakers and the children’s community.

2. Development of a set of instruments, validated for the Sri Lankan setting, which can be applied by trained teachers and measure levels of exposure to trauma, functional and symptomatic consequences for children and the efficacy of trauma counselling.

3. Development of resource materials, including training curricula and manuals on working with psychologically affected children, as well as their caretakers and communities.

4. Build-up of a network of implementers, involving local school authorities, administrators, trainers for counselling and trauma therapy and mental health, social work, community agents & health specialists to provide community support, supervision and referral.

At a Colombo-based conference, in January 2003, with participation of the Ministry of Education, including the Permanent Secretary of Education, members of GTZ technical staff, various policy makers, local and international experts on psychosocial and mental health work from NGOs and academia - the framework for implementation was presented, discussed and finally endorsed and recommended for implementation. The model was also endorsed by members of the Provincial Ministry of Education North and East, Trincomalee and representatives of the Education Council of Tamil Eelam at Kilinochchi (LTTE controlled areas).

3.2.4. Implementation

In close collaboration with local expert psychiatrist Professor Daya Somasundaram, Jaffna University, Psychiatrist Dr Sivayokan and the team at Shantiham Centre for Health & Counselling[vii], as well as expert Counsellor Trainer and Deputy Director of Education Kohila Mahendran, and overall administrator and logistical manager Sundaram Divakalala, the training commenced in early 2003. For the Master Counsellor group 149 active primary and secondary school teachers from all 24 North-Eastern educational zones were carefully selected[18]. The group consisted of 125 Tamil medium and 24 Sinhalese medium teachers. All batches comprised of members from the Muslim, Christian and Hindu community, some also of members from the Buddhist community. Batches of up to 35 ethnically intermixed

[18] Entry test included a written application, an attitude test with essay and an oral entry interview; performance was ongoingly measured via case study presentation, and graded mid-term and final examination. Counselling certificates were handed out in a graduation ceremony.

students were formed and underwent a 'sandwich'-type training, allowing for an overall of 76-days (8-12 hours per day) theoretical training in blocks of 1-3 weeks, followed-by practical work experience at school within the framework of one year. The training was implemented as an interactive process, involving a combination of lectures, exercises, role-plays and demonstrations. Case studies helped foster collective learning from real-life situations in the work with school children and their parents. A participatory, process-oriented approach, based on principles of adult learning was applied, creating space for discussion and sharing of teachers' own experiences, ideas and knowledge. Similarly elements of self-awareness and self-healing were built-in, since teachers originated from the same communities as their child clients, many of them also having undergone stressful and traumatic experiences during the past decades of conflict and forced migration. Learning from Shantiham's decade-long counselling trainings (G. van der Veer et al., 2003), where it proofed that a focus on the personal growth of trainee counsellors (e.g. via sharing of personal problems and traumatic experiences) was most beneficial for the future work, it was of key importance that teacher counsellor trainings aimed at providing a safe and confidential interpersonal environment always taking note of the emotional needs and states of the participants. A predictable training structure and the fact that Master Trainer Kohila Mahendran was present at all Master Counsellor training sessions as a primary supportive and empathic counsellor held the group dynamic tightly and safely together.

The curriculum for Master Counsellor training was based on the specially developed manual "Child Mental Health: Teachers Handbook to help Primary School Children" which had been prepared by the Jaffna team, under the guidance of Prof Somasundaram, psychiatrist Dr Sivayokan and Kohila Mahendran (Sivayogan, Kohila, & Somasundaram, 2003) and is now available in English, Tamil and Sinhala. It attempted to give teachers a broad-based grounding in topics ranging from clinical psychology, counselling, education to social work, covering teaching units such as e.g. healthy child development; adolescence, mid-life and old-age crisis; death, grief, depression & suicide; domestic violence; alcoholism; work of NGOs; ethical principles of counselling, emotional processing. Practical elements of teaching included among other: micro skills in counselling such as empathy, active listening, verbalising emotions, modelling, focussing and problem solving; methods of relaxation and meditation; grief counselling; forms of drama, storytelling and poetry; dance and singing; diagnosis and assessment; intervision, supervision and referral; facilitation skills.

Once a batch of 35 counsellors had passed successfully through this core 8-months training, the vivo/University of Konstanz team would provide a 21-day trauma therapy training in ‘Narrative Exposure Therapy for Children – KIDNET’ for each group. Over the course of 2 years (2003-2005) 5 batches of teacher counsellors were trained. Curriculum for the KIDNET-training was drawn up by vivo members and a training manual was specifically developed (see attachment)[19]. Teaching units included lectures on: traumatic life events and other life stressors; bodily reaction and alarm response: psychophysiology of PTSD; memory theory and fear network; neurobiology of traumatic stress; the concept of post-traumatic stress disorder and its symptoms; trauma and co-morbidity (depression and substance abuse); structured interviewing for assessment and diagnosis of PTSD in children as well as evaluation of treatment success; research results from local epidemiological surveys; consequences for therapy and special needs of child survivors; introduction to Narrative Exposure Therapy for children – KIDNET; introduction to ‘informed consent’, ‘psycho education’ and ethics of trauma counselling.

These theoretical units were continuously interspaced with practical training elements, e.g. for purposes of practical application of the screening tool – UCLA PTSD questionnaire – all participants went on field visits to local primary/secondary schools in Vallikamam and Jaffna educational zones and interviewed school children, in grades 3 to 7. The consent of Department of Education, school principles and parents had been sought up front. The questionnaire, a previously clinically validated version of the UCLA PTSD Index for Children in Tamil (Elbert et al., in press), was introduced during the KIDNET training to teacher counsellors as a structured model for assessing trauma symptoms. Application was exercised in role-plays and usually followed by lively discussions on the pro- and cons of using a structured tool and difficulties in keeping a balance between carrying out a diagnosis and post-phoning counselling for later. At school, counsellors were supervised closely and given the opportunity to carry out enough interviews (at least 5 per trainee) to start feeling

19 The “Training Manual on Narrative Exposure Therapy (NET), A short-term intervention for the treatment of Traumatic Stress Disorders in Children & Adults, Maggie Schauer, Frank Neuner, Elisabeth Schauer & Thomas Elbert, vivo 2003” was provided as a first draft version for the Jaffna workshops in English and Tamil. A published, edited and extended version in English is available since 2005 (M. Schauer et al., 2005)

comfortable in conversing with children and completing questionnaires satisfactorily. All children found with psychological problems during such school visits were referred for counselling subsequently.

In a similar way, exploration of teachers' own biography and working through own traumatic or stressful life events in alternating client-counsellor roles under supervision was a key feature of the training. In the application of a trauma-focused therapy, like NET, the counsellor will only carry out successful treatment, if there are no issues of personal avoidance hindering her/him. In fact by working with teacher trainers in a NET manner on their personal traumatic life events, we saw their ability to apply the method with a client improve drastically. Based on their personal experience, counsellors learnt to phrase conversation in a meaningful and supportive way and understood the inherent principles of how to provide exposure in a framework of safety and empathy. Daily "flashlights", helping to shed light on participants' own emotional state in the 'here and now', as well as other relaxing and energising exercises, such as "a journey of light", "peace meditation", "laugh parade" and "the orchestra – lets get loud" were received by the group with enthusiasm and ensured a state of well-being guaranteeing maximum learning benefit. Weekly repetitions were carried out to make sure that all group members are comfortably grounded in the past week's subject matters, feeling ready to move to the next level.

Interweaved in each training two to three full child KIDNET treatments were carried out on site by vivo members, for children suffering from severe Post Traumatic Stress Disorder[20]. Participants were given the opportunity to sit in on expert child therapy sessions in small groups to learn from real-life treatment situations. After completion of therapy, children were assigned to a Master Counsellor for follow-up and further counselling if needed. These therapeutic interventions intended to give participants a real-life understanding of the step-by-step procedure involved in child therapy, including how to cope with challenging moments of the therapeutic process. Days on which child therapy had taken place usually ended with a thorough discussion on observations on the therapeutic process, techniques, difficult moments in counselling, supportive processing of emotions as well as reflection on trainee's own feelings.

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[20] with the informed consent of the selected children and their parents

Each 3-week KIDNET training concluded with a certificate ceremony and a staged theatre play, written and performed by teacher counsellors, summarising the experiences of the NET training, often in a dramatic and humorous way.

After the first batch of Master Counsellors had graduated, Befriender (=friends of children) training workshops started. An overall of 1200 teachers[21] were trained in batches by selected facilitator groups, each comprising of 3 qualified Master Counsellors plus one supervisor during 8-day resident workshops. In preparation for these, regular pre-training planning sessions among Master Counsellors were held and a suitable programme was tailored together with the expert trainer Kohila Mahendran. This programme part helped build additional facilitation and planning skills for Master Counsellor.

The selection process for Befriender teachers was the same as for Master Counsellors. Adequate trainees were chosen after a thorough entry test and graduated after successful completion of an examination. A reduced curriculum was offered, including units such as: psychological well-being and problems of children; how to recognise children who need help; psycho-education and awareness raising for children, their families and parents at school level; basic counselling skills and support for affected children; how to refer children to Master Counsellors, psychiatrists, hospital, etc. for follow-up at the zonal level.

The role of Befrienders was very much envisaged as a first screening stage, where teachers who naturally work closely with children in school as well as their parents and who are linked to the child's respective community and social environment, can identify children with psychological problems and refer them for further help to Master Counsellors, when needed. A further key task of Befrienders is social in nature, in that the Befriender teacher forms a link between children and their parents as well as their communities. Home visits, community awareness raising tasks as well as the organisation of school-community activities are part of their portfolio. Spread out over all 24 educational zones in the North-East, each bigger school is today 'equipped' with a resident Befriender teacher, able to also communicate psychosocial issues to other teachers, principles or parents during assemblies or in individual cases.

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[21] greatly exceeding the initially planned number of 1000 Befrienders

In this way a natural referral system was built-up, with the University of Jaffna Mental Hospital being the final and tertiary care level, the well-established Jaffna-based NGO "Shantiham – Center for Health & Counselling" acting as a resource and supervision centre[22], Master Counsellors as trainers, supervisors and counsellors and Befrienders as the first level contact to children in schools and to parents and families in the communities.

3.2.5 Evaluation

Evaluation of the work of Master Counsellors and Befrienders was and is going on at various levels in a rigorous way at micro-level (assessments relating to improvement of the individual child and performance of Master Counsellors in general counselling and trauma therapy) as well as program level (regular supervision and intervision meetings of teacher counsellors, referral data, ongoing training of Befrienders, parent-teacher meetings, community awareness raising events).

3.2.5.1. Evaluation of Trainees' Achievement

To start with, only 50 percent of applicant teachers passed the entry exam and each batch lost between 1-5 trainees due to non-compliance with the high standards of achievements, which were set out: presentation of case reports; teaching preparation; overall training evaluation: mid-tern and final theoretical exams (multiple choice, structured questions, essay, oral exam), verbatim and marks from continuous assessment during entire training period, also field evaluation while at school. Evaluation was based not only on knowledge and skills, but also on attitudes and behaviours. (BECARE, 2003)

3.2.5.2. Impact study

The organisation GTZ, one of the main implementers of the school-based cascade model together with the Ministry of Education (BESP) and the Provincial Ministry North East, requested an independent impact study, looking at aspects and spill-offs of the project

[22] 'Shantiham' consists of a multi-disciplinary team: counsellors, psychiatrists, clinical psychologists, psychotherapists, psychiatric social workers, relaxation therapists, occupational therapists, physiotherapists and drama therapists. Their number of community out-reach staff has been substantially increased since the December 2004 Tsunami catastrophe.

beyond implementation assessment. The impact study, published in details elsewhere (BECARE, 2003), showed that there had been considerable change in the attitude and skills of the teachers who now interacted more with their students, parents and colleagues, avoided punishment in all forms (including the very common physical beatings) and created a more caring, participatory, joyful and democratic class atmosphere apart from carrying out a variety of psychosocial interventions for affected students, such as attention to children with special needs, listening and active counselling, family visits and social service activities in the community. Principles expressed their satisfaction of the work done by specifically trained teacher counsellors and there was reportedly good rapport between them and the counsellors as well as their fellow teachers. All teacher counsellors were found to be involved in giving lectures to fellow teachers and carry out discussions with parents and the community. Here some concrete examples of the spill-offs of counselling training in terms of change in teachers' attitudes and behaviours (BECARE, 2003):

- 75% of Befriender and Master Counsellor teachers say they used to focus on completing the syllabus, now they focus on catering to the individual differences in children;

- 45% say their intention used to be to satisfy the superior, now they aim to meet the needs of their pupils;

- majority of Befrienders and Master Counsellors say they now pay attention to withdrawn and weaker children;

- 72% gave up scolding and 95% (!) gave up caning and other forms of beating;

- 80% claim that their principle and teacher colleagues have reduced punishing and caning of children after observing how teacher counsellors could get good results in class without painful punishment;

- a majority of teacher counsellors say they now use interactive teaching techniques, such as group tasks, story telling and creative media;

- 68% say that the atmosphere in the staff room has become more cordial;

- a majority of counsellors are approached for guidance and support when confronted with problems by colleagues and affected children are regularly referred to them;

- all participating counsellors feel that they are happier teaching children then before, that they have improved relationships with parents and children likewise and all recommended counsellor training for their fellow colleagues;

- over 90% of counsellors are in favour of imparting peace education and felt strongly that this knowledge can be gained through the counselling training;

- and finally, the evaluators found statistical evidence ($p<.01$) that children in trained teacher counsellor classes have significantly more happy and smiling faces during teaching time, compared to control classes.

3.2.5.3. Supervision & Intervision

Most importantly supervision and intervision is being carried out on a regular schedule. After formal training had finished, Master Counsellors remained in a capacity building/learning framework of regular feedback and exchange given through person- and case centred supervision of approximately 6 hours per month. These meetings mostly take place as peer group assemblies where further learning via presentation of case studies or discussion of challenges encountered during counselling or work in the community is discussed in an intervision modus. Senior counsellors attend on request. The possibility for individual supervision is also given on request. Master Counsellor's skills are continuously refreshed and assessed during facilitation of Befriender trainings. During the year 2005/6 an additional skill component on counselling of Depression and Grief was introduced to a selected group of Master Counsellors by local experts. A next skill block on methods for family therapy is planned. Befrienders are provided with ongoing supervision once a month. Usually the resident Master Counsellor facilitates these get-togethers at the zonal level. Every meeting tries to meet the following agenda: a) exemplary case presentation and discussion on how to best proceed, counsel, intervene, raise awareness; b) training of at least one new counselling skill for Befrienders; c) and discussion on progress of work and obstacles in regards to child clients, parents, colleagues at school and community.

3.2.5.4. RCT

In the course of 2004-5, the vivo/University of Konstanz team, under the leadership of the author, implemented a randomised controlled treatment trial (see chapter 5), as a highest-level scientific evaluation component of the project. The trial, starting out with a mental health survey to enable recruitment of traumatised children, compared KIDNET to a Meditation/Relaxation protocol in the treatment part. Goals were:

- to gain insight into prevalence levels of traumatic experiences, socio-demographic indicators, current levels of traumatic stress related symptoms (e.g. PTSD, depression, grief, suicidality) and its impact on functioning;

- to assess the effectiveness with which Master Counsellors are able to apply the learnt methods;

- to understand to what degree affected children can benefit from trauma therapy and relaxation methods.

Adhering to rigid clinical standards, the study was designed to put the core elements of the entire Cascade Model to test and assess the efficacy of the teacher counsellors' work and the effectiveness of the built model.

3.2.5.5. Management of the Tsunami Disaster

In December 2004 a devastating Tsunami hit the island of Sri Lanka and put the work of teacher counsellors and of the implemented referral structure under maximum test. How would the trained counsellors respond to an acute emergency? The advantage of in-depth prior training became apparent. Almost instantly, trained teachers were mobilised and volunteered to assist affected children and their parents throughout the North-Eastern coastline. In fact, the existing Tamil training manuals were translated into Sinhala and copies were made available in all schools on the island, encouraging further teacher trainings in the tsunami affected communities, also the Sinhalese South. vivo team members assisted the Disaster Mental Health Task Force Northern-East, which had been formed in Jaffna under Professor Somasundaram's leadership and the Emergency Task Force in Colombo with workshops and on-site supervision. A selected group of Master Counsellors was called to

Jaffna to participate in a 4-day refresher training on “Mental Health & Disaster” in January 2005. Contents of the workshop focused on: psychological first aid, disaster relief, grief and loss counselling, depression, acute stress reactions, helping the helpers and training Befrienders on emergency relief, working in displacement camps, post-tsunami coordination of counselling services and treatment of PTSD. In the framework of the workshop, Master Counsellors’ were asked to practically apply their earlier acquired diagnostic skills in Manadkadu displacement camp, at Point Pedro community, which had been badly hit and almost entirely destroyed by the tsunami wave. The assessment of the mental health situation of acutely traumatised children in situ was an important exercise, since Master Counsellors would after the workshop be deployed back in affected communities, tasked with assessing the situation locally, capable to detect children and families in greatest need for support. All resident 71 children between the ages of 8-14 years were interviewed by counsellors using the familiar UCLA questionnaire that day, closely supervised by 5 mental health experts from the vivo workshop facilitation team. Details of the procedure and findings of this survey are presented elsewhere (Neuner, Schauer et al., 2006). A key finding was the enormously high rate of children (42,2 percent) who fulfilled criteria for PTSD. Upon analysis of data it became clear that the severity of trauma exposure caused by the tsunami and the initial emotional reactions could only partly explain the development of trauma symptoms. In fact, exposure to previous traumatic events, turned out to be the major predictor. War experiences, forced displacement and witnessing violence or killing were additional predictors for the development of PTSD in those children now affected also by the tsunami. The tsunami disaster brought heightened grief into the lives of children. The majority of children had not just seen their homes being destroyed by the wave, but 21 percent had lost one or more siblings that day; many also a parent. Again a building block effect was affirmed, showing that multiple traumatisation increases linearly the vulnerability of children to develop mental health disorders, such as PTSD, irrespective of age or gender.

3.2.5.6. Post-Tsunami Aid Expert Assessment

Further expert evaluations were carried out in 2005 by the vivo team in the most affected communities of the North-Eastern and Southern coastlines on request of GTZ and the Ministry of Education to help develop post-emergency recommendations assisting the mid-term transit phase, bridging the gap between psychosocial emergency and restoration.

Detailed results of these surveys are presented elsewhere (C. Catani et al., submitted; C Catani et al., 2007; Neuner, Schauer et al., 2006). In summary, the evaluations indicated that there was a heightened need for trauma treatment in children and adults living in the affected areas. A considerable proportion of children reported multiple traumatic experiences (such as war events as well as domestic violence) before and after the Tsunami. These children were now at highest risk to develop chronic psychiatric disorders, which would not just impair their present functioning (emotionally, socially and scholastically) but also hamper their healthy development. Furthermore the relocation of thousands of people to temporary camps and shelter homes posed additional conditions of hardship. From several informal interviews at all levels (refugees, camp leaders, community leaders, government representatives) it became clear that reconstruction of permanent housing was developing only slowly. The process of relocation was facing many difficulties: restriction of reconstruction to areas that are unlikely to be affected by future disasters, unwillingness and fear of many affected survivors to return to settlements close by the sea, scarcity of land due to geographical facts and landmines. The vivo expert evaluation stressed that long-term camp displacement including continued food and livelihood supply can breed helplessness and dependency among IDPs and is considered a risk factor for numerous mental ill-health conditions. These observations revealed the urgent need to considerably modify the existing psychosocial and mental health structure. A broad-based package of individual as well as family/community based support would be necessary to counteract the impact of the most recent crisis. Conventional psychosocial approaches, which provided play activities, social support, supportive counselling, were found as insufficient. In greater number than before and now in areas, which were formerly untouched by conflict, e.g. the Southern coast, trained counsellors with trauma treatment skills and knowledge about trauma related psychosocial consequences were needed within a functioning public mental health structure. Not just individual consequences of trauma were visible, but also effects on the family systems. One already well visible sign was a significant prevalence rate of domestic violence. A survey shockingly revealed that children in the sample, besides having survived the tsunami and armed conflict, had been exposed on average to three different acts related to violence happening at home in the last year (C. Catani et al., submitted). Furthermore, ongoing domestic violence in the family was found to be a very reliable predictor for Post-traumatic stress disorder in the affected child. The exceptionally high exposure to aversive and stressful life events was reflected in an extremely elevated PTSD prevalence rate with 30 percent of the children being diagnosed with the disorder. In addition, depressive symptoms as well as suicidal thoughts and tendencies were quite common among the interviewed sample. 20 percent of children were diagnosed with a major depressive disorder and 17 percent were found with a present risk for suicidality. Upon analysis of these data, the experts concluded that a spiral of violence seems to have been set in motion, by the 20-year lasting civil war as well as the adverse effects of the tsunami, which needed to be halted through interventions at several levels. The survey pointed out that caretakers who are traumatized or mentally affected, have little capacity to fulfil their parental and educational duties towards their children, since they are busy coping with their own suffering on a daily base. Detrimental self-medication efforts, where adults tried to regulate their psychological problems, with e.g. tablet and alcohol intake were already common; again a known risk factor for adverse child health conditions. Details of this survey are reported elsewhere (C Catani et al., 2007).

A four level intervention team[23], Supervisors, Master Counsellor Coordinators, Master Counsellor Implementers and the Befrienders, connected through a tight referral and supervision structure and embedded in the overall coordination of the Disaster Mental Health Task Force was suggested to be deployed at the most severely affected areas (see Fig. 9); each level being responsible to supervise and control the interventions of the level below and to take over referral cases. Also clear TOR references for Master Counsellors and Befrienders were formulated.

[23] in keeping with Prof Somasundaram's multi-layered intervention logic

Post-Tsunami Coordination under Guidance of Disaster MH Task Force

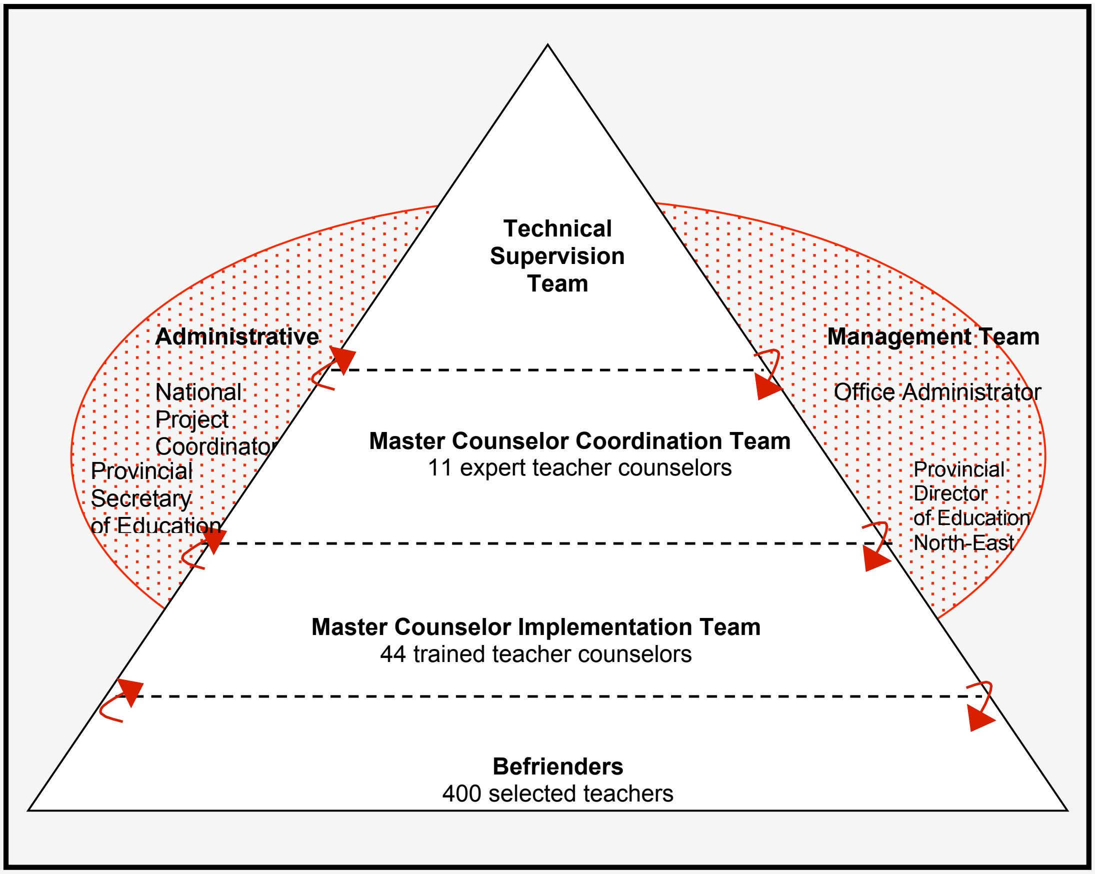

Fig. 9

3.2.6. Formation of a Teacher Counsellor Association

The teacher counsellors, empowered by their achievements in 2005, articulated a request for support to form an independent Association of Teacher Counsellors. In early 2006 the group was helped by the vivo team to formulate a mission statement and to develop an organisational intervention plan. A few months later the teacher counsellor association 'Aruthal' was registered officially. Proposals were developed by groups of Master Counsellors, among other the *"Muttathil Sinthiya Rathinangal Community Project"* under the guidance of Kohila Mahendran and the *"Mullaitivu Multi-Disciplinary Mental Health Team Project"* under the guidance of Dr Sivayokan. These independent organisational developments served as a final proof that local capacity had developed and structures had been built to a degree where the intervention could now be sustained by people within the community itself.

4. INDIVIDUAL LEVEL INTERVENTION

4.1. Treatment of PTSD in Children

Developing evidence-based best practice solutions for the psychological rehabilitation of child survivors of war and organised violence is a pressing humanitarian challenge. We have to however acknowledge the limitations of empirical work done so far and more importantly the lack of an established expert consensus. No firm mandates or best-practice guidelines are available to date. Most recent research on the treatment of childhood psychology has been carried out outside the field of war, conflict and organised violence. Few studies have been done in the framework of refugee mental health service improvement in Western countries of asylum. In this context, it is not uncommon, that refugee child research and clinical work is organised along the chronological stages of the refugee children's migration experiences: *pre-flight:* onset of political violence, social upheaval and increasing chaos, armed conflict, e.g. disrupted schooling, traumatic experiences; *flight:* survival, living in transit/camp, separation from parents, violent experiences continue; and *resettlement:* insecurity, new belief systems, values, roles, e.g. family disruption, stress of adaptation). (Berman, 2001; Papadopoulos, 2001)

Several well-designed studies have evaluated the efficacy of individual treatment on functional outcomes for civil trauma (mostly single event) or sexual abuse in childhood.[24] Despite emerging trends in individual civilian child trauma therapy, statements like these are frequently made once authors write about war-traumatised children:

> "The use of trauma therapies, interventions, or interviews that lead children to recount or relive their worst moments is inappropriate and potentially damaging." (Barenbaum et al., 2004)

One of the principal *ethical dilemmas of research* in refugee and stayee populations is voiced by experts as 'the struggle between developing empirically supported mental health interventions and protecting a vulnerable group from harm' (Leaning, 2001). Refugee and

[24] For a more elaborate review of current child PTSD treatment options, please also see (Dyregrov & Yule, 2006; Harvey, Bryant, & Tarrier, 2003; NCTSN, 2003); also see 5.8.4 Treatment Efficacy

stayee children's specific vulnerability (e.g. absence of traditional social and legal systems; absence, separation from or impairment of care takers; lack of access to effective advocates in places of migrant settlement; ignorance about human rights) is a challenge for the development of best-practice services, based on research which maintains appropriate ethical standards. Obtaining adequate informed consent is critical, however language barriers, cultural norms and the lack of formal education might impede the child or parent's actual understanding of what they are 'voluntarily' agreeing to. In Dyregrov et al's (2000) study of Bosnian refugee families' experience of research participation the process of informed consent was noted to be limited in the case of children because of cultural factors. In particular, parents often neglected to consult with or inform their children regarding participation in the study; a majority of the children agreed that they would have preferred their own separate invitation to participate in the study. These issues warrant further research, also in stayee children and their mothers, who might experience similar cultural discrimination. There is a clear need for high standards of informed consent. Furthermore, authors agree that a detailed risk and benefit analysis explanation has to be offered to the traumatised child or adolescent, including socio-political implications, painfulness of revisiting traumatic events and possible occurrence of initial intensified suffering as well as presumed benefits of verbalising traumatic experiences (Dyregrov et al., 2000; Kleinmann, 1995; Leaning, 2001; J.W. Pennebaker, 1993).

Some authors point out power disparities between patient and provider and argue that a chasm might exist which compromises trust and treatment outcomes. Where some suggest culturally sensitive assessment and treatment protocols, other assume that clinical diagnosis or western-style psychotherapy are a form of 'medicalisation' which leads to stigmatisation of the individual, rather than the understanding that the 'problem' is fundamentally a social, collective, psycho-ecological dysfunction (Pernice, 1994; Summerfield, 1999; Sveaass & Reichelt, 2001). It has been argued that assessment must avoid the narrow view of refugees as traumatised victims. In response several mental health models of trauma have been developed, which integrate culture and psychological development: individualism-collectivism, ecological systems (macrosystem, exosystem, microsystem, ontogenic level), cultural-ecological, social identity, ecocultural and sociocultural, structure-agency and multiple worlds. (Brofenbrenner, 1979; Cooper & Denner, 1998; Elbedour et al., 1993; Garbarino, 1993) Especially, treatment research with young children inherently raises concern regarding ‘ethicality’, however actual scientific proof of harm is missing. In fact some experts (Dyregrov et al., 2000) point to refugee children’s positive experience of being research subjects.

Research instrument validation for the assessment of psychological symptoms and general functioning, in relation to appropriateness of language, age and cultural context is another important step. Cultural explanations for symptoms and aetiology of illness may be very disparate from Western views and may fail to identify mental health problems in people of other cultures (NCTSN, 2003).

Finally, psychotherapy itself may be entirely unfamiliar to a refugee or stayee culture, and may be viewed unfavourably. Thus research reviewed in the following sections should be interpreted with these limitations in mind. The following chapter tries to outline individual and group-based interventions, geared to child populations who present with PTSD and their efficacy.

4.1.1. Early Interventions

Prevention in respect to PTSD has to be seen as preventing the occurrence of traumatic events or children’s exposure to them. The idea behind *early intervention* is that it can prevent later development of PTSD or other disorders, through attending to acute stress reactions and by giving victims early on the opportunity to express emotions, cognitions and bodily memories and receive support in doing so. Grief and trauma reactions are ‘normalised’ and present problems are attended to. Children are told about possible reactions, how to solve problems and deal with symptoms. There have been few publications however of any controlled early interventions for children after disaster and complex emergencies. Apart from direct interventions, experts have gathered clinical experience that early stimulation of family communication around traumatic events (e.g. what happened, who got hurt and why, how are family members and friends doing), clarification of misunderstandings and fostering a good recovery environment for children, such as making children feel safe and secure, proofed beneficial (Dyregrov, 2001; Dyregrov & Yule, 2006; P. A. Smith, Dyregrov, & Yule, 1998, 1999). With the attempt to contribute to guidelines for parents, teachers and schools in the aftermath of organised violence and war, Rousseau and colleagues (Rousseau &

Machouf, 2005) implemented a school-based preventive pilot project for immigrant children, in the wake of the Iraq war, designed to reduce anxiety and intergroup tensions and help children cope with international conflicts with a strong ethnic or religious component and its coverage by mass media, its perception at home and at school. School was intended to act as a safe space, where children can express their concerns and feelings and discuss shared experiences in an accepting environment (e.g. open forums).

Structured ways of early talking techniques, such as *psychological debriefing (e.g. Critical Incident Stress Debriefing CISD)* have also been adapted for children. Whereby some earlier studies showed promising results (Galante & Foa, 1986; Shalev, Peri, Rogel-Fuchs, Ersano, & Marlowe, 1998; Stallard & Law, 1993; Yule, 1992), recent randomised controlled trials however show that early intervention does not result in any additional significant gains and there is no knowledge on whether recovery rates are better or worse than natural recovery rates (Stallard et al., 2006; Thabet, Vostanis, & Karim, 2005). Similar disappointment as to the benefits of early debriefing for adults was stated in a review by McNally and colleagues (McNally, Bryant, & Ehlers, 2003). Although the majority of debriefed survivors subjectively describe the experience as helpful, there is no convincing evidence that debriefing reduces the incidence of PTSD, and some controlled studies suggest it might even impede natural recovery from trauma. Thus it is hypothesised that early exposure to distinct memories of traumatic events may interfere with the affective-cognitive processes that lead to recovery and may even result in an exacerbation of symptoms. It could also be that the specific technique of debriefing, e.g. dissecting the reliving of individual elements of the experience, instead of integrating them and linking them to the experience in the ‘here and now’, causes more distressing then healing effects. Either way, the effectiveness of debriefing has not been systematically assessed in war-like situations for children.

4.1.2. Family-, Parents-, Grouptherapy & School-based Interventions

4.1.2.1. Family Therapy

> “While individual psychotherapy is the primary empirically tested treatment for PTSD among young people, this individual focus has stemmed from the *downward extension*

> *and application of adult treatments to children*, without appreciating the extent to which context shapes and influences children's functioning. Individual treatment fails to consider fully the impact of community and family circumstances." (Dyregrov & Yule, 2006; National Child Traumatic Stress Network - NCTSN, 2003; NCTSN, 2003)

Disaster can profoundly impact the families of survivors. Seeking security and hope, children turn to parents who themselves may feel stunned, terrified, alone or discouraged. The strongest emotional bonds may be ruptured or even severed by the shock of disaster, and therefore recovery for children might require therapeutic assistance for the whole family. Several authors have described *family therapy approaches*. Mostly however single case studies of refugee families are presented in the literature and limit generalisation (Arrendondo, Orjuela, & Moore, 1989; Bemak, 1989; Silove et al., 1997; Sveaass & Reichelt, 2001). Issues to be considered in family therapy with refugees in Western settings beyond emotional and cognitive work are acculturation and integration, the establishment of safety and the therapist's concern for legal and political themes. Methods of family therapy can borrow from approaches, such as: the Multisystemic Family Therapy (MFT), aiming to rebuild the systems that in the past sustained the relationships; Cognitive Behavioural Therapy (CBT) e.g. doing trauma focus work simultaneously, for example with the parents; Interpersonal Therapy (IPT) e.g. the family shares bereavement and acknowledges change of roles; and Dynamic Therapy e.g. identification of shared and divergent emotional conflicts. Other approaches focus on establishing a shared testimony of the experience, whereby after disasters all family members are helped to develop a shared explicit narrative of the disaster and post-disaster experiences that continue to be most troubling, as well as those that are positive sources of hope. (Young, Ford, Ruzek, Friedman, & Gusman, 1998) In addition, communication and problem solving skills may contribute to effective family therapy, as well as a focus on the stages of acculturation.

Most importantly, therapists have to be aware that children are very sensitive to their parents' reactions – both to the traumatic event itself and to talking about it afterwards. It is not uncommon that children will refrain from discussing a traumatic event and its consequences as they soon register that doing so upsets their parents (Hopkins & King, 1994; Yule et al., 1999). This may, in part explain why parents underestimate the degree of stress reactions experienced by their children (Dyregrov & Yule, 2006; Kinzie et al., 1986; McCloskey & Southwick, 1996; Yule et al., 1999; Yule & Williams, 1990) and they may therefore be unaware of their children's need to process the experience (McFarlane et al., 1987). Likewise parents may avoid discussion of a traumatic event because of their own distress involved, they may limit talking as a means of protecting their child, or because of cultural taboos against discussions (Dyregrov & Yule, 2006). However it is recognised that the parental climate of communication may be instrumental in helping the child cope following traumatic events. Salmon and Bryant (Salmon & Bryant, 2002) outline the following important aspects that talking with adults can have for children; it can a) reinstate the experience in memory and prevent forgetting; b) help the child to appraise and interpret the experience; c) correct misconceptions; d) help the child manage and regulate his or her emotions; and e) provide information about coping strategies and facilitate their enactment. So a focus on the communicative functioning of the parental and social environment of the child seems to be closely related to the child's coping and therefore a key factor in rehabilitation.

4.1.2.2. Parental wellbeing

In acknowledging the research that identifies *parents' wellbeing and positive behaviour* as a protective factor in children's mental health and in coping with trauma, involving caretakers and other members of the child's social network in interventions seems important (J. A. Cohen & Mannarino, 1996; Delgado-Gaitan, 1991; P. A. Smith et al., 2001; Szapocznik, Kurtines, Santisteban, & Rio, 1990). However there is very little evidence-based knowledge on how to actually best do this. Deblinger et al. (Deblinger, Steer, & Lippmann, 1999) found in a two-year follow-up study sustained treatment success. The study included behavioural parenting training for a selected group of non-offending mothers of the children in treatment, which had a significant impact on their children's behaviour problems (significant decrease) as well as depression (significant decrease). In a multi-site randomised controlled trial, Cohen and colleagues (J. A. Cohen, Deblinger, Mannarino, & Steer, 2004) also involved non-abusing caregivers in therapy along side their sexually abused children and showed that parents who had received CBT improved in relation to their depression, emotional distress related to their children's abuse, in supporting their children as well as in adopting positive parenting skills. A randomised controlled trial by Dybdahl and colleagues, evaluated the effects on five-year olds in war-affected Bosnia and Herzegovina of a psychosocial intervention programme consisting of weekly support group meetings for mothers over a five-months period. The primary aim of this psychosocial intervention was to promote the development and well-being of young children through parental involvement, support and education, and focussed specifically on the mother-child interaction, trying to reinforce patterns to enrich the child's environment (R Dybdahl, 2001; R. Dybdahl, 2001). The psychosocial intervention improved both the mother's and children's mental health. Notably it had a positive effect on children's weight gain. To its credit it belongs to the less than handful of published studies that used random assignment of individuals to intervention groups. Engaging parents can also function as a natural bridge between the world of family and school. It seems that engaging parents in immigrant schooling is for obvious reasons (e.g. language, culture, foreign education system) a lot more challenging then actively creating a teacher-parent communication in the post-conflict community itself (J. A. Cohen & Mannarino, 1996; Delgado-Gaitan, 1991).

4.1.2.3. Group Therapy

In war-torn circumstances and under the challenge of responding to the vast need of providing maximum efficiency in numbers for the affected child survivors after war or disaster; aggravated by economic constraints and the limited numbers of available mental health professionals; *group work* is usually the treatment of choice for traumatised children (Dyregrov & Yule, 2006; Giannopoulo, Dikaiakou, & Yule, 2006; Giannopoulou, Dikaiakou, & Yule, 2006; Jensen & Shaw, 1993; R S Pynoos & Nader, 1988; Yule & Williams, 1990). The idea is that children can learn copying from each other and help find solutions for their problems as well as the recognition that they are not alone with their feelings and experiences (Yule, 2002).

Attempts of group-based psychotherapy with adolescents who have undergone similar types of violent events have proven successful in reducing PTSD symptoms and grief, when carried out in Western-based service settings (Mohlen, Parzer, Resch, & Brunner, 2005; Salloum, Avery, & McClain, 2001). Following the earthquakes in Turkey and Greece in 1999, a manualised approach for children in disasters, developed in collaboration by the Institute of Psychiatry in London and Center for Crisis Psychology in Bergen Norway, was used for children (P. A. Smith et al., 1999) and a similar manual has been developed for war situations (P. A. Smith et al., 1998). The three suggested main sessions concentrate on helping children deal with the troubling symptoms of intrusion, arousal and avoidance in a framework of group-sharing and problem solving. Children are asked to practice various imagery and distraction, dual attention techniques and how to manage frightening, repetitive dreams. Relaxation techniques are taught to reduce arousal (e.g. breathing exercises, muscle relaxation) and with respect to avoidance, the exercises introduce children to the concept of graded exposure (e.g. drawing, writing and talking about the incident). A study examined the effects of this short-term group cognitive-behavioural intervention and showed a significant reduction in overall PTSD symptoms as well as depressive symptoms in child survivors of the Athens earthquake. The treatment also produced a statistically significant improvement in children's psychosocial functioning. Improvement was still reported at 18-months follow-up and treatment gains were sustained at 4-year follow-up. (Giannopoulou et al., 2006) Unfortunately the mix of approaches leaves the question to the most 'active therapeutic ingredients' open. Along with Yule (2000), it has to be concluded that "in treatment of war affected children, group approaches seem to be very therapeutic for many children but not all problems can be solved in the group".

4.1.2.4. Multiple Systems

Interventions focusing on the impact of *multiple systems*, e.g. holistic assessments and treatments, have been suggested by a number of researchers, whereby several professionals work simultaneously to target different areas of a refugee's life and meet their diverse needs (Aroche & Coello, 1994; Elbedour et al., 1993; NCTSN, 2003; Norris, Friedman, & Watson, 2002; Papadopoulos, 2001; Yule, 2000). Evaluation of effectiveness of such multi-systemic approaches has yet to be done. In any case for stayee children and adolescents in crisis regions where the resources for any form of service is scarce, a community-based and multi-dimensional approach is at times already practised out of necessity (Sivayogan et al., 2003; D J Somasundaram, 2007; D J Somasundaram & van de Put, 2006).

4.1.2.5. School Setting

The *settings* where child interventions take place have further been noted as important factors that can support and enhance the impact of services delivered. Clinics and medical settings have been noticed to have some advantages, since medical care is more readily accepted and not associated with stigma among many groups. However in post-conflict settings, health structures are usually weak and already dealing with a high influx of post-emergency patients, highly qualified staff has left to seek refuge elsewhere and material resources are scarce. The channelling of resources into the development of community-based mental health services should therefore be an important focus of rehabilitation measures in post-conflict settings.

As discussed, for children *schools* provide an important opportunity to intervene with refugee children, as well as stayee children in crisis regions. Placing interventions in school can help reduce stigma, reach out to populations, who might otherwise not readily access mental health services and also provide an opportunity to intervene with the school setting itself (class mates, teachers), as well as the parent community, assuming a holistic impact on the child's socio-ecological network (BECARE, 2003; Layne et al., 2001; O'Shea, Hodes, Down, & Bramley, 2000; C. Schneider, 2005). Yule in 2000 presents one of the first comprehensive models of community-based interventions in a post-conflict setting with children. He suggests a hierarchical model of support and intervention, from the provision of general safety via school and parents for some children, to a more directed psychosocial and a specialised mental health service provision for those who need it (Yule, 2000). Another noteworthy study by Layne and colleagues (Layne et al., 2001) has carried out a preliminary effectiveness evaluation of a trauma and grief-focused group psychotherapy conducted in Bosnian schools with war-exposed adolescents. Their manualised treatment, intended for war-traumatized adolescents, combines psychoeducation, therapeutic exposure, cognitive restructuring, stress management-relaxation skills, and practical problem-solving skills. Based on an evaluation of 55 high school students who participated in the treatment, the authors found that the students experienced significant reductions in posttraumatic stress, depression, and grief symptoms. Reductions in distress symptoms were associated with higher levels of psychosocial adaptations. After a natural disaster in Hawai, Chemtob and colleagues (Chemtob, Nakashima, & Carlson, 2002) effectively proofed the impact of a public-health inspired intervention combining community wide school-based screening and pychosocial treatment on children's psychological recovery. Around the same time, Stein and colleagues (B. D. Stein et al., 2003) carried out a successful treatment study with violence-affected pupils in a Los Angeles middle-school. They compared a 10-session manualised 'CBT-Intervention for Trauma in School' early intervention group with a waiting list and showed significantly lowered scores on PTSD symptoms, depression and psychosocial dysfunction. Authors especially report the effectiveness in delivery of services on school campus by trained mental health clinicians. Kataoka (Kataoka et al., 2003) pilot-tested a trauma-focussed group CBT program (including psychoeducation, social problem solving and imaginal exposure to trauma memory) for traumatised Latino immigrant youth in the USA, designed for delivery on school campuses by school clinicians, ready to be implemented and evaluated in the school setting. Even though the reduction of symptoms of PTSD and depression was only modest and did not in all cases help diminish to non-clinical ranges, authors describe how school clinicians were effectively able to deliver such activities in the context of existing school service structures. Also Goenjian and co-workers (Goenjian et al., 1997) demonstrated that a school-based grief-and-trauma-focused CBT can be transferred to the context in developing countries, as the intervention effectively decreased post-traumatic stress symptoms and stabilised symptoms of depression in adolescents following an earthquake in Armenia. The results support the broad use of such school-based intervention after major disasters and demonstrate the cross-cultural applicability of Western psychotherapeutic approaches. (R S Pynoos, Goenjian, & Steinberg, 1998)

4.1.3. Cognitive Behavioural Therapy & Exposure

Once PTSD has developed, a number of recent reviews and articles have concluded that *Cognitive Behavioural Therapy (CBT)* is effective with children and adolescents and superior to other forms of treatment (AACAP, 1998; J. Cohen, 1998; J. Cohen, Perel, DeBellis, Friedman, & Putnam, 2002; J. A. Cohen, E. Deblinger et al., 2004; Deblinger, McLeer, & Henry, 1990; Ehntholt, Smith, & Yule, 2005; Goenjian et al., 1997; Kataoka et al., 2003; March, Amaya-Jackson, Murray, & Schulte, 1998; Mohlen et al., 2005; Pine & Cohen, 2002; Saigh, 1986, 1989; B. D. Stein et al., 2003; Vickers, 2005). In fact the guidelines of the British National Institute of Health and Clinical Excellence (NHS) recommend psycho-therapeutic procedures like CBT that involve talking about the traumatic experience in detail (trauma focus) in favour of anxiety management approaches or medication (NICE, 2005). So far, most controlled clinical trials employing CBT for traumatized children have focused on victims of sexual abuse or child survivors of civil trauma with single incident stressors and treatments have been carried out by clinical experts (Cohen & Mannarino, 1996; Deblinger et al., 1996; King, Tonge, Mullen, Myerson, Heyne et al., 2000)(J. Cohen et al., 2002; WHO, 2001). In rare cases CBT was transferred to school-settings in crisis regions and successfully applied (Goenjian et al., 1997; Yule, 2000).

The term CBT often comprises a variety of different methods used, leaving at times the critical elements within the treatment to be identified. The main focus of classic CBT lays on the modification of fundamentally guiding beliefs and concerns of the patient, e.g. in relation to safety, trust, intimacy, which have been shattered by traumatic events and which have led to the development of maladaptive behaviour and negative emotions. However under the umbrella 'CBT', many different approaches are practiced: trauma-focussed methods, in-vitro flooding, narrative approaches, exposure techniques, cognitive re-structuring, problem solving strategies and others.

Several comparative trials (Foa et al., 1999; Marks, Lovell, Noshirvani, Livanou, & Thrasher, 1998; Tarrier, Sommerfield, Pilgrim, & Humphreys, 1999; Taylor et al., 2003) have shown the efficacy of *Exposure*-based approaches for adults, especially in terms of stability of treatment success over time (Hembree & Foa, 2003). During exposure, the client is asked to revisit the traumatic event in detail, usually he/she is encouraged to narrate the story of what has happened as well as relive sensory, emotional and cognitive elements which were present during the worst moment. By revisiting painful images and sensations during the 'hot-spot' it is thought that habituation takes place, which in turn decreases intensity as well as frequency of trauma related symptoms. In child therapy concerns remain as to how exposure can best be applied, especially when the patients are of young age or when narrative exploration poses problems. For children, exposure elements are usually packaged in a framework of different therapeutic activities.

Ehlers et al. (2005) have developed and evaluated a form of trauma-focussed cognitive-behavioural therapy for adults and could show a significant reduction of PTSD as well as depression related symptoms, compared to a waiting list, stable also after 6-months follow-up (Ehlers, Clark, Hackmann, McManus, & Fennell, 2005). Since their cognitive processing model includes a certain amount of exposure, it can not be concluded where exactly the positive treatment results stem from; also treatment was carried out by experienced clinicians.

A drawback in applying CBT for smaller children (under the age of 10 years) has been, that in refugee/immigrant service provision in Western settings, usually parents are involved directly to support this treatment to a certain degree. However compliance has been rare. Understanding of CBT concepts has proved difficult for families from other cultures. As a result refugee parents often do not support CBT homework, and therapies have not been found to be efficacious in such cross-cultural settings. Once refugee children are old enough to support their own therapeutic process, without having to rely on parents anymore for e.g. practicing at home, treatment success is far greater (Kinzie, Cheng, Tsai, & Riley, 2006).

In conclusion, looking at a number of studies, reviews suggest that CBT methods, which include work on the traumatic memory (trauma focus), show the best results also for PTSD affected child populations (Dyregrov & Yule, 2006; Ramchandani & Jones, 2003). The ‘critical elements’ that make CBT so successful and the optimal length of treatment for children remain to be identified.

4.1.4. EMDR

Eye Movement Desensitisation and Reprocessing - EMDR (F Shapiro, 1995; F. Shapiro & Maxfield, 2002) combines imaginal exposure to trauma-related stimuli, with saccadic eye movements to facilitate accelerated processing of traumatic memories. Following psychoeducation, the patient is asked to follow a marker with his/her eyes or other from left to right in quick succession (this basic visual stimulation by eye movements has been successfully replaced by auditive or tactile stimulation when the former has proved to be unsuitable, e.g. child can not follow), especially when a so-called ‘hot spot’ is reached.

EMDR has so far shown to be a promising technique for adults, even though not more efficacious than conventional cognitive behavioural or exposure therapy across outcome measures (P. R. Davidson & Parker, 2001; Taylor et al., 2003; van Etten & Taylor, 1998). Most studies comparing EMDR to other forms of therapy have important methodological limitations. For a review see Taylor (2003). There are a number of case reports claiming effectiveness of EMDR in treating children (Chemtob, Nakashima, & Carlson, 2002; Oras, de Ezpeleta, & Ahmad, 2004; Tinker & Wilson, 1999). Other unpublished, but seemingly promising studies are summarised in Dyregrov & Yule (2006). The following studies have not found significant success of EMDR compared to other treatments as usual or even waiting list control groups in children: (Chemtob, Nakashima, & Carlson, 2002; Jaberghaderi, Greenwald, Rubin, Oliaee Zand, & Dolatabadi, 2004; Soberman et al., 2002).

Most child EMDR studies so far were carried out with patients who have experienced single-incident trauma, such as a hurricane, or early childhood sexual abuse and treatment was carried out by clinical experts in Western clinical settings. Usually, EMDR is combined with traditional psychotherapy, such as psychodynamic therapy or family counselling, making it difficult to extrapolate the 'extra effect' it has. Following the literature, it seems to be the trauma focus itself, allowing a certain amount of imaginal exposure and cognitive re-structuring to occur. The effect 'eye movement' has been reviewed as not crucial, since it can be replaced by tapping the hands or other distracters (P. R. Davidson & Parker, 2001; McNally, 1999). It remains therefore unclear how much of the observed improvements may have been due to natural recovery over time or the commonly practised mixing of psychotherapeutic methods with EMDR (Ehntholt & Yule, 2006).

4.1.5. Testimonial Therapy

Testimonial psychotherapy has been applied as a promising technique for adults. It borrows from previously tested treatments for traumatic stress, such as exposure and desensitisation, relaxation training and cognitive restructuring. Testimonials have the dual purpose of healing through both, storytelling and using ones testimonial for political purposes, enabling the survivor to become educator and advocate. The signing of the completed document signals a formal end to the process and the completed document can be presented to human rights organisations or others as evidence of an individual's experience of abuse. What distinguishes this approach is its social aspect, as one of its explicit aims is to reframe the individual survivor's story within the social and historical context in which the state-sponsored violence took place. The authors feel it is important that the client giving testimony does not need to take on the culturally determined role of a psychiatric patient to participate. Another advantage is that testimonial psychotherapy fits culturally with the oral tradition of storytelling – common to all cultures, whether its members are literate or not. So far Testimony Therapy has been used with adults (I. Agger & Jensen, 1990; Cienfuegos & Monelli, 1983; Lustig, Weine, Saxe, & Beardslee, 2004; van Dijk, Schoutrop, & Spinhoven, 2003; Weine, Kulenovic, Pavkovic, & Gibbons, 1998; Weine & Laub, 1995), but Lustig (Lustig et al., 2004) describes a first case series with adolescents boys from Sudan and an efficacy study is on the way.

4.1.6. Pharmacological Treatment

Psychopharmacological treatment has not been empirically evaluated in field settings or among refugee children. Potential helpfulness is assumed in non-refugee child populations, since pharmacological treatment is widely practiced for treatment of PTSD in children, especially in the Western world, foremost the USA (J. A. Cohen, 2001). Neurobiological evidence, as reviewed by Cohen et al. (J. Cohen et al., 2002), suggests that children with PTSD may experience over-reactivity of the amygdala, under-reactivity of the medial prefrontal cortex, elevated levels of dopamine, increased activity of the norepinephrine/epinephrine adrenergic system, elevated endorphin levels, dysregulation of the HPA axis, decreased hippocampal and corpus collosum size and low levels of serotonin. Most preferred medications are selective serotonin reuptake inhibitors and alpha-adrenergic agonists (J. A. Cohen, Mannarino, & Rogal, 2001; Donnelly & Amaya-Jackson, 2002; Donnelly, Amaya-Jackson, & March, 1999; Robert, Blakeney, Villarreal, Rosenberg, & Meyer, 1999; Seedat et al., 2002). So far all psycho-biological models are derived from adult studies and treatment is usually supported by various forms of psychotherapy. Drug treatment alone has not proven to be successful as a single intervention, neither is data available on its potential harmfulness for children. It is further unclear whether there are differential effects of pharmacological treatment on chronic or acute trauma or type of trauma experienced; whether only symptoms are mediated (anxiety, arousal) or also physiological causes; whether there is a central effect on intrusion or only susceptibility to triggers is mildened; how much (dosage) and when medication is best administered? In the absence of sound documentation, experts urge practitioners to be extremely cautious in using psycho-pharmacological agents for children, especially, as effective psychotherapeutic methods are available. (Dyregrov & Yule, 2006)

4.1.7. Expressive Media

Psychotherapy applying expressive media for children who suffer from PTSD have a longstanding tradition, however little scientific evidence has been presented. Especially techniques, such as therapeutic *drawing and play* have been used with child victims of sexual and/or other forms of abuse as well as refugee children and in a few cases in settings of post-conflict (Bowers, 1992; J A Cohen, Berliner, & March, 2000; Eth & Pynoos, 1985; Galante & Foa, 1986; Glaister & McGuinness, 1992; D J Somasundaram & van de Put, 2006; Thabet et al., 2005; Thomas & Rudolph, 1996; Zimmerman, Wolbert, Burgess, & Hartman, 1987). Art and play therapy tries to offer visual and senso-motoric media that may allow repressed traumatic memories to surface more easily and help children express feelings, issues, and memories that may be too difficult or painful to verbalise (Kellogg & Volker, 1993). It claims to overcome avoidance, language and cultural barriers, build trust and reduce tension (Del Valle, 2001). It is also sometimes used as an initial tool to provide a conduit for identifying and understanding issues requiring therapeutic intervention and follow-up.

It is unclear however whether it is the drawing or re-constructing/re-enacting of the event itself and its new interpretation with the help of the therapist, that can aid recovery, which is claimed, especially in findings stemming from the psychoanalytical tradition or whether active elements are connected to the theory of prolonged exposure, whereby drawing, playing and acting remain tools for completion of fragmented memory and habituation of the fear response in children. Authors are also not univocal in prescribing clinical significance to the content of what is drawn. Some suggest that children with a lower PTSD symptom severity are actually more able to paint an accurate picture of what has happened and thereby profit more from art therapy (Magwaza, Killian, Petersen, & Pillay, 1993). Other reports state that merely drawing the trauma is not a sufficient therapy and may even be retraumatising per se (Machel, 2001).

In *project-based interventions, drawing and other expressive media, such as play, drama and dance*, is often used in group-settings, e.g. classrooms intermixed with relaxation, cognitive, psycho-dynamic, family-based (e.g. drawing of story books) and other psychosocial techniques (J A Cohen et al., 2000; Gordon, Staples, Blyta, & Bytyqi, 2004; Hanney &

Kozlowska, 2002; K. E. Miller & Billings, 1994; D J Somasundaram & van de Put, 2006; Thabet et al., 2005). Unfortunately, none of these interventions have been applied in a scientifically rigorous manner. Despite claims of success, a study from Former Yugoslavia, where emphasis was placed on facilitating children's expression of emotion through drawing and other expressive techniques, following treatment there was no measurable change in children's adjustment on a range of self-report measures of stress reactions (Bunjevac & Kuterovac, 1994).

Furthermore, making use of a variety of mixed approaches, non-active elements of intervention can marginally be differentiated from active ingredients, rendering the analysis of efficacy and effectiveness of distinct elements impossible. A noteworthy 'group crisis intervention for children' in the Gaza strip, is presented by Thabet and colleagues (Thabet et al., 2005). The rationale of the intervention was to establish whether psychological programs can be used for children exposed to trauma, during ongoing conflict, via e.g. the set up of a crisis intervention while trauma continues. The intervention included techniques such as drawing, free play, storytelling and expression of feelings about the conflict, in order to reduce children's stress and depressive reactions. However there was no significant change in PTSD symptoms and depression rates between crisis intervention and non-intervention group over time.

Drama, which aims to replay actual experiences, such as abduction, bombings, attacks by army or rebel groups or re-enactment of historical events are popular, especially in areas where there are no mass media and the population is largely illiterate, such as in North-Eastern Sri Lanka or Northern Uganda. In Sri Lanka the purpose of drama groups has been clearly political and aims to enrol young men and women in the armed struggle against government forces. Such intermix of political, social and psychological agendas must be openly dissected and care must be taken that mental health practitioners do not became agents for political groups. No evidence has been established as to the usefulness of such concepts for health reinstatement in relation to clinical disorders.

A number of authors have suggested *expressive writing* as a vehicle for dealing with painful and traumatic memories. Pennebaker (J.W. Pennebaker, 1993; J. W. Pennebaker & Seagal, 1999) found that writing about important personal experiences in an emotional way for as little as 15 minutes a day brings about significant improvements in mental and physical health. Claiming that this finding has been replicated across age, gender, culture, social class, and personality type, he suggests that the formation of a narrative about emotional and highly charged life experiences is critical. According to Pennebaker and colleagues, disclosure has a positive impact on psychological and physical health. He refers to people's need to understand the world around them: "Translating distress into language ultimately allows us to forget or, perhaps a better phrase, move beyond the experience" (J. W. Pennebaker & Seagal, 1999). This type of cognitive reappraisal is shown in research to be most helpful in processing traumatic events as compared to exposure only (Ehlers & Clark, 2000; Schoutrop, Lange, Hanewald, Davidovich, & Salomon, 2002). Using creative writing or poetry can often help children express themselves by providing an outlet other than talking, which helps to organise complex emotional experiences. For children who have undergone migration experiences, expressive writing is aimed at aiding the healing process and promoting personal growth (Del Valle, 2001). Authors suggest that creative writing is especially a tool for refugee children, since they can write letters to their family and friends who remained in their homeland or to those they have lost (Orton, 1996) However, as Pennebaker remarks, narrative self-disclosure can only ameliorate psychological stress following exposure to trauma, if there is some restructuring of the emotional memory, e.g. memory is evoked for the purpose of developing new responses. And in return he proposes, that there are dangers in encouraging emotional experience of survivors in absence of the acquisition of a new response to emotion-evoking material (Kacewicz, Slatcher, & Pennebaker, 2007; Littrell, 1998).

Also directed reading is suggested to facilitate the expression of the child's feelings or teach problem solving skills. *Bibliotherapy* involves reading and discussing texts related to the current situation and problems. The intervention asks the child to identify with a story character, projecting his/her feelings and thoughts upon the character and experiencing the catharsis and self-reflection in the aftermath. Discussion will then focus around the characters behaviour, thoughts and feelings, including stressors, coping mechanisms and support systems. (Thomas & Rudolph, 1996) Whereby treatments, such as manual-based bibliotherapy (basically a written form of cognitive behavioural therapy in self-help format) has shown promising outcomes for patients suffering from depression (Burns, 1999; Cuijpers, 1997; Jorm, Christensen, Griffiths, & Rodgers, 2002; N. M. Smith, Floyd, Scogin, &

Jamison, 1997), no evidence is available for its usefulness in treating post-traumatic stress disorder (Ehlers et al., 2003).

4.1.8. Rituals and Commemorations

A small body of literature describes interventions focusing on *culturally relevant healing practices*, such as family genograms, honouring family memorabilia, shamanic practices, religious rituals and celebrating traditional festivals (Bemak, 1989; Woodcock, 1995). Especially *rituals and commemorations* are at times suggested, when grief and intense feelings of isolation and alienation are present. It is suggested that rituals and memorial days help to unify survivors with each other and their affected communities:

> "For survivors whose loved ones are killed by an act of terrorism, rituals are essential in the mourning process – offering the hope that compassion, love and goodness are larger than evil; that humanitarian values ultimately triumph over barbarism and the fearful aspects of reality. In a time of great loss, rituals can affirm survivors' identity and relatedness and strengthen them to act as a community to prevail over terror and adversity. For survivors whose community has been ravaged, rituals can help re-establish the ruptured social equilibrium. For survivors whose lives are forever changed rituals provide a sense of place in the universe, a place in the world, a place in the community and a place in the family." (Young et al., 1998)

In Sri Lanka after the tsunami disaster, religious leaders from various faiths (Buddhist, Hindu, Muslim, Christian) would perform collective funeral rituals at the beach for relatives of those who had been swept away and whose bodies could not be laid to rest due to traditional religious requirements (e.g. cremation, burial).

Memorials and commemorative gatherings also seem to play an important social, psychological and political role especially after genocide and other forms brutal ethnic cleansing. Mental health professionals can play an important role in consulting with community officials and survivors in planning commemorative activities. From our own studies with AIDS orphans in Ethiopia we know that the attendance of traditional rituals, e.g. parents' funeral, is only beneficial for children, given certain support structures; also the introduction of mourning rituals with a therapeutic intention must follow certain parameters and usually ask for a scientific assessment among the affected populations first. (Winkler, 2006) Studies on efficacy, potential harmfulness and possible integration of rituals, when appropriate, with other forms of psychotherapy, such as family therapy, are necessary.

4.1.9. Anxiety Management, Meditation & Relaxation

4.1.9.1. Assumed benefits

To date there are more than 2000 peer-reviewed studies on mind-body medicine[25]. Also the relationship of stressful life events and illness has clearly been established. A multitude of studies have shown that mind-body therapies may improve stress-related conditions, such as heart disease, irritable bowel syndrome, asthma, hypertension, cardiopulmonary dysfunction, chronic fatigue, chronic pain, diabetes, lowering of cholesterol levels and enhance immune functioning. An example is the working group of Paul-Labrador who have recently investigated the impact of Transcendental Meditation on outcome measures such as blood pressure, lipoprotein profile and insulin resistance in subjects with coronary heart disease, measuring significant improvements compared to a control group (Paul-Labrador et al., 2006). Additionally, mind body therapies have so far not shown any harmful side effects and may increase a sense of self-control and wellbeing, which in turn promotes improved health status and longevity (R. P. Brown & Gerbarg, 2005b; Jacobs, 2001a, 2001b).

In contrast to approaches, which aim to activate a certain level of fear in order to process and integrate traumatic memories, anxiety management techniques teach methods which enable the patient to control fear reactions. Pathologic fear is seen as the result of deficient coping strategies. Therapy tries to impart strategies on how to deal with conditioned emotional reactions in the trauma context, which can act as trigger or stimuli (people, places, situations, etc). The so-called 'relaxation response seems to especially lower symptoms of hyperarousal, and has benefits such as e.g. allowing children to fall asleep at night.

As a treatment for PTSD, there is little information on the breadth and speed of the effects or on the incidence of symptom development, which relaxation techniques might have. Most studies to date have been carried out in relation to depression. Traumatic stress related studies show methodological weaknesses and are potentially biased by the affiliation of authors to organisations, such as 'Transcendental Meditation' or the 'Art of Living

[25] the role of thoughts and emotions on health

Foundation'. Very little independent research has been carried out and if so, most often only case vignettes are described (Khouzam, 2001). Investigators usually find that relaxation tends to be less effective than exposure therapy or cognitive restructuring (Foa et al., 1999; Marks et al., 1998; Taylor et al., 2003).

The effects of relaxation are however noteworthy because PTSD often remains unchanged in the absence of treatment (McFarlane et al., 1987; Schaal & Elbert, 2006; Taylor et al., 2003; van Etten & Taylor, 1998; Yule, 2002). In relaxation, there seems to be an active element at work, which has been defined in various ways (H. Benson, 1989; Jacobs, 2001a, 2001b). Sahar (Sahar, Shalev, & Porges, 2001), for example, found that trauma survivors who develop PTSD differ from those who do not in the extent to which their heart rate response to challenge is controlled by vagal activity. The team claims that psycho-physiologic investigations of PTSD overlook the role of the parasympathetic nervous system and its involvement in recovery from stress. The vagal control of heart rate via the myelinated vagal fibers varies with respiration, an indicator why, e.g. breathing techniques might have impact. Brown and Gerbarg (R. P. Brown & Gerbarg, 2005a; Gerbarg & Brown, 2005) hypothesise that relaxation reduces sympathetic nervous system activation and increases parasympathetic nervous system activity, thereby restoring homeostasis: stabilisation of the autonomic and stress response system, triggering of the neuro-endocrine release of hormones (reduction of cortisol, elevation of prolactin and oxytocin) and thalamic generators. Recent studies using spectral analysis and EEG mapping of the 'relaxation response' demonstrate that by changing mental activity, measurable changes in central nervous system activity occur (Jacobs, 2001b). Whereas studies on mindfulness meditation have been informative, they usually tell little about changes in brain and its effect on immune functioning over time. In a recent extensive body of work however, Davidson and colleagues (R. J. Davidson et al., 2003) have established that left-sided activation in several anterior regions is observed during certain forms of positive emotion and in subjects with dispositional positive affect; also greater relative left-sided anterior activation at baseline is associated with enhanced immune function. In a randomised controlled trial, Davidson et al. (2003) showed that mindful meditation (in a 8-week practicing group versus non-practicing group) changes anterior activation asymmetry significantly, producing increases in relative left-sided anterior activation (= positive affect) and reductions in anxiety and negative affect. Taylor (Taylor et al., 2003) and Benson (H Benson, 2000) hypothesise that relaxation might exert its effects by reducing hyperarousal symptoms. Once hyperarousal is reduced, the patient may be less distressed by trauma-related stimuli (Foa & Rothbaum, 1998) and, therefore, less avoidant. Thus, relaxation training might encourage exposure, even in the absence of formal exposure exercises. Other research describes the effect of meditation as 'systematic desensitization', since it encourages the bearing of significant emotions, images or thoughts about the trauma, e.g. abuse situations, thereby desensitising and altering the experience (Kane, 2006). General advantages of all relaxation treatments are its practicability in individual, as well as small and large group settings. It has been offered in schools, prisons, hospitals, rehabilitation centres, refugee camps, etc. Techniques can be taught to large groups in only a few days. Authors further suggest beneficial complementary effects, such as the reduction of antidepressant and anxiolytic medication, when relaxation techniques are added to traditional psychotherapy. (R. P. Brown & Gerbarg, 2005b)

A number of techniques are subsumed under the heading 'anxiety– and stress management', such as Stress Inoculation Training - SIT (Meichenbaum, 1977), relaxation response (H. Benson, 1989), biofeedback (Peniston, 1986), breathing exercises and mindfulness meditation-based programs (Kabat-Zinn et al., 1992), mindfulness-based cognitive therapy (Williams, Duggan, Crane, & Fennell, 2006), guided self-dialogue (Meichenbaum, 1977), training of social skills, progressive muscle relaxation (Jacobson, 1938; R. H. Schneider et al., 1995), affect management and distraction techniques, such as 'guided imagery' (Eller, 1999), 'thought stop' and other.

4.1.9.2. Stress Inoculation Training

SIT – Stress Inoculation Training, a prominent anxiety management approach, was developed by Meichenbaum in the early seventies (Meichenbaum, 1977). It assumes that stress builds up, if experiences are perceived as threatening to coping or wellbeing. The aim of SIT is to help develop skills to manage anxiety, especially by recognising stimuli early. In its scope it's a mix of approaches, including progressive muscle relaxation, breathing and relaxation exercises, training of communication skills, guided self-dialogue, cognitive restructuring, modelling, role-play and assertiveness training. There are indications that SIT is effective in various adult populations however only moderate when compared with exposure or cognitive behavioural techniques (Foa et al., 1999; Taylor et al., 2003).

Watson and colleagues (Watson, Tuorila, Vickers, Gearhart, & Mendez, 1997) carried out a comparison of three relaxation regimens as a treatment for PTSD in 90 male Vietnam veterans: simple relaxation instructions, relaxation with deep breathing, relaxation and thermal biofeedback, finding only mildly therapeutic effects overall with no additional benefits of breathing and biofeedback beyond that associated with simple instructions to relax in a comfortable chair.

4.1.9.3. Concentration & Mindfulness Meditation

In the literature, two primary forms of meditation are discussed: concentration and mindfulness. *Concentrative meditation*, e.g. as practiced in Zen meditation (Austin, 2000), directs thoughts towards something, such as an object (e.g. burning candle, waves of the ocean), word, image, sound, the breath or an emotion. When the mind wanders away from the focus of meditation, attention is redirected back to that focal point. *Mindfulness meditation* does not restrict attention to a single point; rather, awareness follows thoughts, feelings and sensations as they arise, flowing freely from one to another. Mindfulness meditation is the receptive attention to psychological states, the enhancement of accurate and clear perception, the openness for new experiences, inner and outer (K. W. Brown & Ryan, 2003). 'Mindfulness' is most commonly defined as:

> "the state of being attentive to and aware of what is taking place in present" (K. W. Brown & Ryan, 2003)
>
> "paying attention in a particular way: on purpose, in the present moment, and non-judgementally" (Kabat-Zinn, 1990)
>
> "the clear and single minded awareness of what actually happens to us and in us at the successive moments of perception" (Nyanaponika, 1972)
>
> "keeping ones consciousness alive to the present reality" (Hanh, 1976).

Mindfulness, as perceptual presence, is not about achieving inner wellbeing; it is 'present awareness and attention per se, no matter what the mind's content might be at the moment' (Kabat-Zinn, 1990). Relaxation is certainly one benefit of mindfulness, however being awake, present and capable of mobilizing own resources to meet challenges moment to moment is another key effect. Authors hypothesise that disengaging individuals from automatic thoughts, ruminations, habits, and unhealthy behaviour patterns, play a role in fostering informed and self-endorsed behavioural regulation, which has long since been associated with enhancement of well-being (Ryan & Deci, 2000). A developed measurement for mindful attention, the Mindful Attention Awareness Scale (MAAS), can show that mindfulness is associated with heightened self-knowledge and a number of physical and emotional wellbeing indicators (K. W. Brown & Ryan, 2003). The famous mindfulness-based stress reduction program (MBSR) by Jon Kabat-Zinn shows effective reduction and maintenance of reduction of symptoms in patients with generalised anxiety disorders, panic disorders and panic disorders with agoraphobia as well as chronic pain and depression. (Kabat-Zinn, 1990; Kabat-Zinn, Lipworth, & Burney, 1985; Kabat-Zinn et al., 1992; J. J. Miller, Fletcher, & Kabat-Zinn, 1995; Ramel, Goldin, Carmona, & McQuaid, 2004) It has further been suggested as a useful approach to the treatment of suicidal individuals (Williams et al., 2006; Williams & Swales, 2004).

At the simplest level meditation has been categorised as a cognitive technique based on its ability to draw attention away from thought (Ellis, 1984). And in fact, the mindfulness methodology was further developed and merged into clinical therapies, such as e.g. mindfulness-based cognitive therapy - MBCT (Segal, Williams, & Teasdale, 2002; Teasdale et al., 2000) and showed its usefulness in a number of ways, among other, the prevention of relapse/recurrence of depression in recovered patients, where patients learn to be aware of negative, habitual, automatic thinking patterns, disengage from ruminative depressive cycles and 'decenter' or better non-identify with emotions, thoughts and bodily sensations, accepting them as passing phenomena in the 'here and now' without judgement (Kabat-Zinn, 1990; Ma & Teasdale, 2004; Ramel et al., 2004; Segal et al., 2002). Assumed active mechanisms in MBCT are described as follows: 1) ability to concentrate/stay focussed; 2) awareness towards thoughts, emotions/feelings and bodily sensations; 3) to stay in the 'here-and-now'; 4) acceptance and non-attachment to what is in the 'here-and-now'; 5) ability to let go of 'states'; 6) ability to 'be' without preconceived notions of the 'how' or comparison to the intended: 'whatever is there now is unflawed/complete' (even if its pain); 7) awareness of the bodily manifestation of the 'state' (Michalak & Heidenreich, 2004). Shauna Shapiro (S. L. Shapiro, Carlson, Astin, & Freedman, 2006) makes a direct link to exposure and describes it as one out of four hypothesised mechanisms which work in mindfulness: 1) self-regulation; 2) values clarification; 3) cognitive-behavioural flexibility; and 4) exposure.

> "Reperceiving – the capacity to dispassionately observe or witness the contents of one's consciousness – enables a person to experience even very strong emotions with greater objectivity, less reactivity...This capacity serves as a counter to the habitual tendency to avoid or deny difficult emotional states thereby increasing exposure to such states. Through this direct exposure, one learns that his or her emotions, thoughts, or body sensations are not so overwhelming or frightening. Through mindfully attending to negative emotional states, one learns experientially and phenomenologically that such emotions need not be feared or avoided and that they eventually pass away." (Segal et al., 2002)

Meditation is finally associated with a gain in self-acceptance and a sense of personal empowerment and control (Kane, 2006), qualities therapists try to re-instil in trauma survivors. Empowerment settles in as unwanted thoughts, feelings and body sensations are no longer avoided or reacted to in an automatic way, but rather responded to in an intentional and skilful manner (Ma & Teasdale, 2004).

4.1.9.4. Mantra Chanting

Mantra chanting is traditionally not considered a relaxation technique, but a spiritual practice originating from Hinduism in Asia (Easwaran, 2001). In Western-based psychology and psychotherapy, spirituality is not a recognised, efficacious element of treatment. There are however studies, which suggest that people who regularly meditate and/or pray have health benefits (Bernardi et al., 2001) and among other also fewer intrusive thoughts (Fabbro, Muzur, Bellen, Calacione, & Bava, 1999). Bormann et al. (Bormann et al., 2005) present an interesting pilot study with veterans in ambulatory care. Participants were asked to silently, but frequently repeat a mantra (=an ancient form of prayer, a word or phrase with spiritual significance, sometimes a Holy Name) during day and night times and thereby direct attention away from intrusive thoughts towards a chosen word or phrase often with spiritual meaning to provide comfort (some veterans preferred to chose their own mantras such as 'take it easy'). The concepts of 'one-pointed attention' and 'slowing down' were taught as complementary aids to mantra practice. The findings show a significant reduction of symptoms related to perceived stress and state-and-trait anxiety and anger, symptoms of posttraumatic stress disorder, and improved quality of life and spiritual well-being. This study does however not satisfy criteria of a randomised controlled trial and can therefore not prove efficacy.

4.1.9.5. Yoga Techniques

Yoga[26] treatment elements, especially its breathing techniques, e.g. 'Sudarshan Kriya Yoga' promoted by the Art of Living Foundation[27] (K. W. Brown & Ryan, 2003; R. P. Brown & Gerbarg, 2005a, 2005b), has been widely tested and claims effectiveness on individuals suffering from Acute Stress Disorder and PTSD also those affected by mass disaster in Kosovo- war (Rafuni, 2007); Iraq – war (Biswas, 2004); Gujarat - earthquake; New York - September 11; New Orleans - Hurricane Katrina (Gerbarg & Brown, 2005); Sri Lanka – tsunami (Descilo et al., 2006). Authors who have applied Sudarshan Kriya Yoga report significant improvement on depression symptoms in adults (Janakiramaiah, Gangadhar, Naga Venkatesha Murthy, Harish, & Vedamurtachar, 1998), PTSD and depression in children after the tsunami (Descilo et al., 2006) and PTSD in war traumatised children in Kosovo (Gordon et al., 2004) among other. A multi-component RCT yoga intervention, consisting of yoga body poses, breathing techniques and psychoeducation is currently implemented at the University of Queensland, Australia, for the treatment of PTSD in Vietnam War veterans aiming at the reduction of PTSD and depression symptoms as well as reduction of alcohol intake[28]. There are further four yet unpublished pilot studies, designed to develop a yoga posture program for the treatment of Vietnam veterans with PTSD (Carter & Byrne, 2004). Preliminary findings show marked improvement in depression, but not on anxiety and posttraumatic stress symptoms, until selected breathing techniques were added to the body posture training (R. P. Brown & Gerbarg, 2005b). For children affected by the tsunami disaster and suffering from PTSD and depression, Descilo and colleagues (Descilo et al., 2006) compared a yoga-breath-based relaxation group protocol (BWS) with BWS plus individual Traumatic Incident Reduction (a trauma focussed approach with exposure elements) and a waiting list. Post-screening showed significantly reduced scores for PTSD and depression with increasing scores for general health in the BWS group. The addition of

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[26] yoga is composed of two elements: 1)'pranayamas' – breathing exercises and 2) 'asanas' – mindful body postures

[27] http://www.artofliving.org/

[28] http://www.clinicaltrials.gov/ct/show/NCT00256464

trauma focussed individual therapy sessions showed no further effect on test scores. Follow-up evaluation outcome and publication is to be awaited[29]. Positive outcomes of Kundalini Yoga (Shannahoff-Khalsa, 2003) has been reported for Obsessive Compulsive Disorder, psycho-oncology patients and a range of psychiatric disorders, especially anxiety, phobia, addiction, major depression, grief, insomnia and other sleep disorders by Shannahoff-Khalsa (Shannahoff-Khalsa, 2003, 2004, 2005).

In summary, none of these studies have been conducted using rigorous research designs. Most studies lack treatment control subjects, randomisation and clear target symptom identification. Since yoga courses often include aspects of cognitive-behavioural therapy, psycho- as well as social education elements like e.g. human values, social responsibility and community service as well as elements of re-experiencing, where breathing evokes trauma-related sensations and affects, it remains, similar to mindfulness, that active elements of yoga-based therapy have yet to be defined.

4.1.10. Factors for consideration in summary

In summary, finding best-practice treatment for children who suffer from PTSD in a war or post-conflict/post-disaster setting, has to take a number of factors into account:

- children who are refugees or stayees and who originate from or live in parts of the world, where they have been exposed to war, conflict and/or other complex emergencies and/or disasters as well as/or domestic violence or sexual abuse, are likely to have experienced an unusual number or degree of stressful experiences (multiple traumatisation);

- child survivors of organised violence or war have a right to treatment, which does not only focus on individual rehabilitation, but takes the socio-political context of their populations suffering and human rights abuses into account;

- they will also have lived within adverse environments, such as poverty, hunger, insecurity, forced migration for long periods of their lives, this has to be accounted for in the treatment process;

[29] personal conversation with author

- for many stayee or asylum seeking children a number of stressors are ongoing;
- treatment should equally acknowledge coping strategies and experiences/sources of personal strength children have used in the past to overcome such tremendous adversity;
- many stayee children live in circumstances where they themselves or their parents remained illiterate, so story telling and narrative approaches might yield, familiar features in such ‘oral cultures’;
- beyond PTSD these children are likely to present with a range of associated features, such as feelings of guilt and shame, as well as co-morbid disorders, such as depression, pathologic grief, anxiety, sleep problems, somatic complaints and behavioural difficulties;
- it is unlikely that they have ever received professional help for their problems or that they even know such help is available;
- there are very few, if any, well-trained helpers available in crisis regions;
- there are almost no comparative clinical randomised controlled treatment trials, which have been carried out with children in settings of complex emergencies;
- current clinical literature suggest trauma treatment methods, which include psycho-education and work on the traumatic memory e.g. elements of CBT, exposure, grief are most promising;
- there are virtually no evidence-based trauma treatment approaches, which can be learnt by local lay people in a short time and enable them to successfully apply short-term therapy for children in post-conflict settings;
- most therapy studies have looked at decrease or increase of post-traumatic stress symptoms, very few have attempted to diagnose PTSD and enrol children with this disorder in a randomised design;
- there are also few evidence-based, scientifically tested training manuals for this purpose to date.

These factors have guided the development of Narrative Exposure Therapy (NET) and its adaptation for children (KIDNET).

4.2. Narrative Exposure Therapy for Children (KIDNET)

4.2.1. Basic Principles of NET

Psychotherapy with survivors of organised or state-sponsored violence or war is challenging the therapist to acknowledge socio-political and economic dimensions as well as aspects of human rights, child rights, women's rights abuse, sometimes crimes against humanity and genocide during the course of treatment. Psychotraumatisation due to man-made, purposeful, mass violence is an illness, which needs remedy beyond psychological measures. That is why standard psychotherapy is often declined by survivors of organised violence, especially those originating from more collectively organised societies, who do not want to separate their personal suffering and recovery from the suffering and help needed for their entire people.

Our work group has developed Narrative Exposure Therapy - NET (Neuner, Schauer, Klaschik et al., 2004; M. Schauer et al., 2005) as a standardized short-term approach in recognition of the earlier introduced neuro-scientific and psychological findings, which assume an inadequate inter-connection of the episodic memory with the implicit fear network. Analogous, NET is aiming at memory reconstruction, based on effective principles of cognitive–behavioural exposure therapy (Foa & Rothbaum, 1998) and is adapted to meet the needs of traumatized survivors of war and torture, by integrating the detailed narrative documentation of life events known from Testimony Therapy (Cienfuegos & Monelli, 1983). Instead of asking the patient to define a single event as a target in therapy, which for survivors of multiple and/or repeated traumatisation is almost impossible to do, he/she is encouraged to construct a narration about her/his whole life from birth up to the present situation while focusing on the detailed report of the traumatic experiences. The patient-therapist interaction is based on principles of person-centered therapy (Rogers, 1980), whereby empathic understanding and active listening, congruency/genuineness and unconditional positive regards are key attitudes of the therapist. Surpassing person-centered therapy however, the narration is driven forward in a supportive but rather directively guiding style by the therapist, in order to counter avoidance, a specific and inherent part of PTSD symptomatology. The assumptions on effectiveness of this therapeutic approach are based on theories of habituation as well as cognitive theories of autobiographic memory restructuring and the assessment of meaning. (Brewin, 2001; Conway & Pleydell-Pearce, 2000; Ehlers & Clark, 2000; Lang, 1994; Neuner, Schauer, Klaschik et al., 2004; M. Schauer et al., 2005)

The following are considered key therapeutic elements of Narrative Exposure Therapy, for NET and KIDNET likewise:

- Active chronological reconstruction of the autobiographic memory;
- Prolonged 'in sensu' exposure of the traumatic experiences ('hot spots') in form of full activation of the fear structure with the aim of modifying affective interconnections; aiming at the separation of memory about the traumatic event from conditioned emotional reactivity[30];
- Construction of a conscious, semantic connection between physiological reactivity and perceptive memory of the experienced event in the context of time and place (when, where, who, what);
- Cognitive re-evaluation of behaviour before, during, after the traumatic event; correction of cognitive contortions, especially those which contribute to 'survivor guilt', guilt and shame; and a final re-appraisal of the experienced traumatic events, in application of universal value schemes e.g. declaration of human rights;
- Preparation of a testimony resulting from the narration in recognition of the experienced events and with a view to recover the survivor's human dignity.

4.2.2. The speciality of KIDNET

[30] 'emotions' as defined by P. Lang as 'action propositions' (Lang, 1994; Lang, Davis, & Ohman, 2000)

Surely one of the greatest concerns in translating the assumed 'active ingredients' of NET into KIDNET is the necessary and central importance of language – a key element of the therapeutic process. By age 5 children use clear articulation and varied grammar to tell stories and share ideas (Cantwell & Baker, 1985). But what if the traumatic event happened before? Encouraged by research, which shows that even though the child's level of language development at the time of encoding influences the extent to which events can be reported verbally, children as young as 2 years can provide a brief verbal report of a stressful experience some 2 years later (Peterson & Bell, 1996; Peterson & Rideout, 1998). And children, also very young ones, provide information additional to their verbal report if given the opportunity to demonstrate their recall (Driessnack, 2005; Pipe, Salmon, & Priestley, 2002). Early behavioural memories tend to be highly specific to the context in which they were acquired and require specific cues to facilitate retrieval, like adult questioning or re-enactment of parts of the event. There is evidence that events experienced prior to the development of language can be demonstrated behaviourally (Scheeringa et al., 1995). Even toddlers can re-enact a sequence of actions up to 1 year after the experience (Bauer, Kroupina, Schwade, Dropik, & Wewerka, 1998). Therefore several mechanisms have been proposed for the effectiveness of applying illustrative material. One is drawing and it is assumed that it compensates for memory and reporting difficulties experienced by children by providing both a chain of retrieval cues and a structure for the child's narrative (Gross & Hayne, 1998). Drawing might also reduce the social and emotional demands by providing a focus other than the interviewer (Gross & Hayne, 1998).

KIDNET therefore additionally involves specific creative media that aid in retrieval of memory and help the completion of narration of the past event.[31] Such tools are the 'lifeline', as well as drawing, re-enactment (e.g. via body positioning), playing out (e.g. via little figures or toys) of key moments of the traumatic event. Since KIDNET is a short-term approach, sessions are highly structured. Usually the exercise *'lifeline'* will not extend beyond the first treatment session; however is kept open always to changes, especially to newly emerging memories during therapy. In principle it serves as a mutual 'road map' and introduces the range of experiences that need to be covered in therapy; in that way it is also an excellent planning tool. In order to ensure a comprehensive laying-out of life events, it is highly

[31] please see (M Ruf et al., 2007; M. Schauer et al., 2005) for detailed description

recommended that a preceding diagnostic session includes a life event list and the therapist is familiar with its content. Children are often not used to receiving full adult attention for 90 minutes and also the unfamiliarity of the treatment setting can be a cause for distress. Under such circumstances it is possible that children are compromised in remembering all of the important events at once, especially fearful life experiences. If events are missing, a knowledgeable therapist can aid completion of lifeline by the end of the exercise in saying: “remember last time you told me about that bombing event in Jaffna when your sister died. Can you find the right place on your life line where this day belongs?” In our clinical experience, such direct interventions yield very positive results and give immediate encouragement to the child, first, that nothing will be forgotten, second, that there is nothing that we can not openly talk about here and together, no matter how fear-based or shameful. It is a simple and effective ground rule: what is on the lifeline will be talked about.

Drawing as a tool to aid narration comes most naturally to children. First of all the position of ‘facing each other’ is reversed to ‘sitting next to each other’; a simple move, which can enhance the subjective feeling of being supported immediately. The child draws and ideally explains his/her drawing while it is happening. The therapist verbalises along empathically. The dialogue is guided by questions being asked from the side of the KIDNET therapist along the rationale of NET treatment - cognitions, emotions, bodily and sensory memory within the flow of chronology. So it would go something like this: “I can see a little boy with a red t-shirt by the side of the road here. Is this you? Do you remember what you were thinking in that moment?...ok so this was going through your mind. And then there is a big military tank, all in green over here, is that so? Ah, it is easy to see, you drew that well. It looks like there are people in the window of the car? Ah, sure the soldiers, yes. Do you remember what you were feeling when you saw that big car and the men?....Now, that car seems to be moving forward with a big gun pointed towards that little boy, you, do you remember that moment back then? How did your body feel back then when you saw this happening?” In this way a drawing is fully explored and ‘hot’ as well as ‘cold’ context memory is interwoven. Also the link to the ‘here and now’ needs to be interspaced constantly: “when you think of that moment back then, how do you feel/think right now as we are drawing/talking about it?”

Playing out a past event via little figures or toys works in the exact same way. It is important that the therapist is staying away from taking an active role in the play. Only the child is actively moving and placing the figures. The role of the therapist is that of a keen, interested and empathically supportive listener. The media of *'body positioning'* is probably the most challenging methodology to apply or at least, the one, which might take most courage by the new KIDNET practitioner. For children however body positioning is a natural talent. If a therapist guides the dialogue in such a way that active action is expected, a child will often introduce a scene by re-enacting. Questions such as: "Ah, so you were trying to find shelter in the hole in the ground when you heard the gunfire and the place was very small. Can you show me how you managed to do this?" Equally to drawing or playing with toys, important observations by the therapist are narrated along. It is important to physically move around with the child in the room as certain moments of the traumatic experience are explored to give support, this can be interspaced with sitting down and 'simply' talking again. Most importantly the therapist should be aware to verbalise the story from the point of view of the child and accompany the scene 'shoulder-to-shoulder'. Sitting opposite or standing up higher might easily lead to the therapist being perceived as the perpetrator.

In summary, all of the introduced creative media are powerful tools and can help the therapeutic process in a multitude of ways: overcoming avoidance, intense re-experiencing and habituation, memory re-call, among other. Any creative tool which is applied only serves the purpose of aiding the process of therapeutic reliving and putting the experience into language, thereby completing the narration. None of it is necessary, if the narration is flowing well though. It is meant to be reserved for the most difficult to retrieve moments or for moments that seem 'forgotten', those which are most fear-based and those for which no language exists yet. As in all child-centred narrative approaches, short and repeated summaries by the therapist of what the child produces during application of creative media in KIDNET helps the storyline forward and of course positive appraisal is a 'must'. The child should be actively rewarded for every important piece of information that is retrieved from memory. Especially during the early sessions of KIDNET, appraisal will greatly improve the quality of bonding between the therapist and her/his young patient. At times the therapist might verbalise what he/she notices in the child's action or behaviour, however stands to be corrected and complemented by the child's response and review of what has been written in the narration. Detached drawing or play as such is not considered therapeutic in this framework.

Researchers have remarked that introducing toys or drawing in recall might introduce errors into the children's accounts, possibly problematic if there are forensic implications of the assessment; a concern which is less relevant in the therapeutic context, given the benefits it yields. Under the viewpoint of emotional processing in KIDNET, the child's story is the child's story as long as the traumatic experience is processed and whatever shape it takes, it will not be matched to outside source accounts. It will be documented by the KIDNET therapist in the exact words of the child patient only. Controlled trials have only involved children from the age of 7 years and older so far, even though, a substantive number of these children have successfully processed traumatic memories, which they had experienced as far back as age two with this approach. The 'lifeline' approach has become such an effective tool that it is now introduced as standard procedure even in adult NET therapy, especially with illiterate patient populations.

4.2.3. The Efficacy of NET & KIDNET

The aim of NET was from its outset to conceptualise a form of trauma treatment, which, based on universal, modern scientific standards of neuroscience and psychology, can be efficacious in different countries and cultures, can be taught to local personnel or even local lay people, is short in time, accounts for human rights abuses and has a socio-political as well as a therapeutic dimension for treating traumatic stress related conditions.

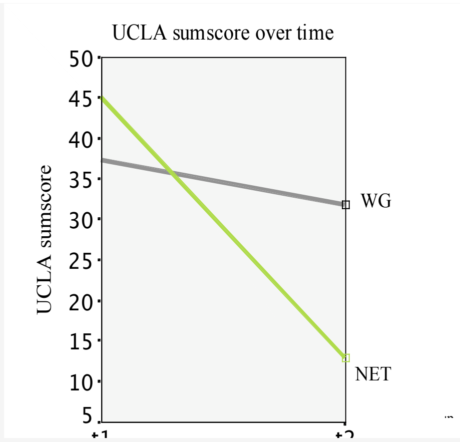
In the course of time we have put NET to test in a number of countries and settings, for adults as well as children. Our key focus is on persons who suffer from PTSD and other traumatic stress related disorders and live in conditions of internal displacement, refuge, asylum seeking, pandemics, under ceasefire, in ongoing conflict, post-war, post genocide and post-crisis after natural disaster. Our working group is meanwhile starting to also collect clinical experience and research with patients who have suffered long-term sexual abuse or are currently diagnosed with schizophrenia or personality disorders in Western-based settings. First experiences were collected with 12 traumatised refugees, applying various narrative therapeutic methods at our Department for Psychology, University of Konstanz, Germany. The case study treatments were evaluated using psychometric instruments (Neuner, Schauer, & Elbert, 2001). In a next step the efficacy of Narrative Exposure Therapy was evaluated in a randomised controlled trial with Sudanese refugees in Uganda, comparing

NET to Supportive Counselling (SC) and Psychoeducation (PE). One year after treatment, only 23 percent of the NET clients but 78 percent of the SC group and 88 percent of the PE group still fulfilled PTSD criteria (Neuner, Schauer, Klaschik et al., 2004). The trial also established a very high acceptance of NET by patients (16 out of 17 to whom the treatment was offered accepted) and almost all followed through (1 patient in the NET group dropped out; one was terminated due to excessive alcohol consumption), despite the in-built exposure elements, which tend to produce much larger drop-out rates in clinical trials (Foa et al., 2005; Tarrier et al., 1999). The drastic decrease in avoidance symptomatology in the NET treatment group was mirrored by people's behaviour. A surprising majority of former NET patients had at one-year follow-up left the camp in search of bettering of their economic status (e.g. labour contract, farming own land), indicating an increase in functioning, critically linked to survival of the individual and his/her family.

Recently a randomized controlled treatment trial with NET has further been successfully accomplished in Rwanda with young adults, whose parents were killed during the genocide (Schaal & Elbert, 2006; Schaal et al., 2007). An overall of 118 Rwandese orphans between the ages of 13 and 29 years were interviewed in early 2005. All respondents had been confronted with multiple traumatic events in their lives: 85 percent reported that at one moment in their lives they thought they would die; 70 percent witnessed the killing of a person; 20 percent saw the killing of their mother or father with their own eyes among other. An overall of 34 percent of these youngsters fulfilled the criteria of PTSD, 36 percent the criteria of Major Depression and 37 percent reported suicidal ideation at time of first interview. One year later the group was re-interviewed and a sample (N=26) out of the diagnosed child group were randomly assigned to either Narrative Exposure Therapy or Interpersonal Therapy (IPT). All subjects fulfilled the diagnosis of PTSD, 81 percent presented additionally with a Major Depression and the same percentage fulfilled criteria for suicidality. Each participant received 4 therapeutic sessions over the time course of one month. The NET participants (n=12) received three individual sessions of NET, plus an additional session of grief counselling in group-setting. The IPT group (n=14) received four sessions of IPT in group-setting, with a particular focus on role transition (child headed household or life in an orphanage), grief and loneliness. A three-months and six-months post-test was carried out by blind assessors. The results showed a significant as well as differential therapeutic success. PTSD remitted significantly more (fulfilment of PTSD diagnosis as well as severity of symptoms) in the NET versus the IPT group; at 6-months follow-up 71 percent of those in the IPT group still fulfilled criteria for PTSD, versus only 25 percent in the NET group. Depression remitted from a pre-test score of 93 percent in the IPT group to 50 percent at last follow-up, and from a clinically significant 67 percent, to 50 percent at 3-months and to 17 percent at 6-months follow-up in the NET group; suggesting a long-term therapeutic effect of the four session therapy, even though the actual traumatic experiences happened as far back as 11 years for most children.

NET has also been applied for aged survivors of political detention and torture of the former Communist regime in Romania who had on average suffered from chronic PTSD for more then four decades (Bichescu, Neuner, Schauer, & Elbert, 2007b). Persons, mostly male, now in the sixties and seventies were offered either five sessions of NET or one session of Psychoeducation in a random assignment. NET, but not Psychoeducation produced a significant reduction of posttraumatic and interestingly also of depression scores; indicating that NET may lead to the alleviation of symptoms even when the conditions had persisted for excessive time periods and that either the remission of PTSD symptoms or another active ingredient in the treatment contributes to the reduction of depression symptomatology at the same time. Again, there was no drop-out during therapy, but in fact a great interest in these long-term survivors to get their autobiographic story heard, completed and documented. KIDNET, a child-friendly version of standard NET, has been tested initially in a pilot study for its efficacy with Somali refugee children suffering from PTSD (L. P. Onyut et al., 2005). Results showed a significant symptom reduction right after completion of therapies and even more pronounced at 9 month follow up, indicating KIDNET as a promising intervention to treat children with war related, multiple traumatisation. A most promising first randomised controlled trial with KIDNET has been completed with traumatized refugee and asylum seeking children in Germany (M. Ruf et al., 2005). In the German study the 25 children were either directly enrolled into the NET treatment group (N=12) or placed on a 6-months waiting list (N= 13). At time of first interviewing, the children were between 7-16 years of age. Gender was balanced in both groups; equally there was no significant difference in terms of duration of stay in Germany or PTSD symptom severity between the groups. The KIDNET group (group 1) received 8 sessions of therapy, the children on the waiting list (group 2) did not receive any further intervention after the diagnostic interview. Six months after completion of therapy of treatment group 1 as well as group 2 were re-assessed by blind interviewers. Results showed that the KIDNET group had significantly reduced PTSD scores, whereby the waiting list group (WG) showed no significant change in symptom severity.

Treatment of Traumatised Refugee Children in Germany



KIDNET - t1: UCLA Sum-Score (SD) 45,0 (12,4); t2: 12,9 (9,9)
WG - t1: UCLA Sum-Score (SD) 37,3 (8,2); t2: 31,8 (16,5)
F(1,18): 16,9; p<.01

Fig. 10 (M. Ruf et al., 2005)

Results consistently showed that NET can be successfully applied with traumatised children, adolescents and young adults, leading to a significant symptom reduction to such an extent that the majority of clients do not fulfil the diagnostic criteria of PTSD after treatment and benefit in a number of other ways.

To demonstrate the actual application of KIDNET, a case study of a traumatised Somali refugee boy in a Ugandan refugee settlement is detailed below (E. Schauer et al., 2004).

4.2.4. A Case Study from Somalia

Thirteen-year old Mohamed Abdul[32] was one of the children who were identified as suffering from posttraumatic symptoms during our survey in the camp. He is a Somali refugee boy who reached Nakivale Camp at the age of ten together with his father, after a forced migration history of several displacements. Mohamed impressed us from the first encounter with his personal charm and cleverness. His behaviour and personal expression was very active, sometimes to a degree where he had trouble sitting still or holding his attention for periods of time. He was talented in expressing himself and also in verbalizing his thoughts and feelings. During therapy Mohamed was a pro-active client, always asking questions, eager to fully understand and participate.

After having introduced Mohamed to our form of therapy, he received further psycho-education. A standard written rationale was developed for this. The goal of the procedure was to explain that trauma-related symptoms and dysfunction frequently occur after multiple traumatic experiences. Subsequently, an informed consent sheet was read to him and his father in Somali and signed by all parties. Present at therapy was an experienced female KIDNET therapist, a female KIDNET trainee and a male refugee Somali KIDNET trainee, who acted as an interpreter. The therapy was carried out in March 2003 in Nakivale Camp and took an overall of 4 sessions of 60-90 min to complete, within a timeframe of 3 weeks. The place of therapy was our project base in Nakivale Camp, with the exception of the last session in an office in Mbarara town.

The frequency of Mohamed's postraumatic symptoms had been assessed using the Posttraumatic Stress Diagnostic Scale - PDS (Foa, 1995). The instrument had been adapted to Af-Somali in the framework of the project[33]. Mohamed presented with a total score of 36, which indicates a high frequency of posttraumatic symptoms.

[32] original name changed

[33] The questionnaires were translated using several steps of translation, blind back translations and subsequent corrections by independent groups of translators that were recruited from the refugee community. Further inquiries about details and examples of symptoms were made by the experts with the help of the translators to ensure a correct understanding of the symptoms and to validate the clinical significance of symptoms and the severity rating of PTSD.

Mohammed's symptoms could be explained from his traumatic history. Within one year, at ages 8 and 9, he had experienced: 1) a street shooting, where people fled in panic and he was trampled to the ground; 2) seeing dead bodies in close distance floating in the water; 3) being shot at with an AK47 and wounded; 4) being beaten in the face with the back of a gun; 5) witnessing the rape of his best friend by 2 adult militia men (worst event); 6) a village raid, where shelling and shooting was going on around him and where he directly witnessed people being severely wounded and mutilated; 7) car accident, where he sat beside the driver who was killed by a bullet in the head, while driving and his father was seriously wounded.

Other than these traumatic experiences, Mohamed also suffered the loss of his mother at age 8, when his father decided to leave and relocate; the loss of his best friend and playmate, whom he dearly loved, due to a violent incident; and the loss of his favourite nanny, due to a violent attack and later displacement. The relationship to his father remains the only stable bond and safe emotional contact in his life, up to the present.

Mohamed's story unfolded quickly. As for many of the children whom we have offered KIDNET, the concept of telling us in detail, what he had felt, thought, sensed, experienced at important moments of his life seemed a natural task for Mohamed. From the start, Mohamed was very clear as to his life experiences, the intervals between each experience, as well as the importance and nature of the flowers and stones representing the experiences. He placed 10 stones on his life line, representing the traumatic events and moments of bereavement and loss talked about above; additionally a stay in hospital, where a bullet was removed from his leg and an incident, where he destroyed a TV screen after having experienced an enormous fit of anger. The flowers he put on his lifeline were scarce, but stood for emotionally warm and happy moments in his life. At age 6 he earned a special prize in school, which made his family very proud. He remembered his mother giving him new clothes, taking him to the market and caring for him. He remembered playing with his friends in the street in the evening. He remembered finding a best friend, whom he shared many good playtimes with. He remembered his wise grandmother, who comforted him in times of sadness. He remembered his nanny, who he describes as beautiful and warm, just like a big sister. Summing up his early childhood, Mohamed said: *"When I remember those days, I wished this life would come back, I was so very happy then."*

Mohamed's traumatic experiences impacted greatly on his social and emotional functioning and he was very aware of it. He warned us at the beginning of therapy for example, that we might not be able to 'handle' him, since making him talk about his bad experiences might put him in such a state of anger, that he might actually attack us. We reassured him, that we felt confident to handle whatever feelings might 'befall' him and any 'outbursts of aggressiveness', as he put it.

Session 1 (60 minutes): Mohamed's narration started with his earliest memories and followed through his happy early days of childhood. In the beginning of the first session, we deliberately spent much time exploring the happy moments of childhood of the client. Just like many other children who have gone through years of war and conflict, Mohamed had pushed the good times in early life far away, and it was comforting for him to rediscover those good memories.

Then the first stone encapsulating a traumatic event approached. Mohamed reports that he was caught, together with his nanny in a street shooting in Mogadishu: *"…suddenly I heard bullets, there was shooting and panic in the street everywhere around me. People were shouting and running. I can hear the sound of the bullets right now when I remember this, people were shouting: 'Allah Aq'bar', and there was the sound of bullets: 'rrrrrrr'. I fell down…a moment later I could feel people running over me. I feel the pain of their feet on my back here and now…my heart is beating fast when I remember this and there is a pain in my chest and back …".* Mohamed was saved by his injured nanny, who carried him out of danger and both were taken to hospital. The fear that he reported about during this event was very visible for us, he had palpitations and his speech and mannerism was speeding up a great deal. We invited him to relive this emotionally intense moment, by asking question about the quality of his feelings, thoughts and sensations while encountering this frightful moment. Subsequently and despite his physical arousal, Mohamed continued his narration up to the point were he is met by his father and taken to hospital. He said*: "He held me and hugged me, at that moment all pain was gone…all I felt was 'I am save now'".* At this moment, Mohamed's arousal became visibly replaced by relief and we encouraged him to imagine and feel his father's arms once again and how safe and protected he had felt being embraced that way. Having reached a safe place in the storyline, we decided that this marked the end of our first session.

Session 2 (90 minutes): We re-read the script of the narration from session 1 to Mohamed, exposed him once again to emotionally intense moments and took note of a lot more details of the story, which now emerged; thereby bringing the narration of his first traumatic event closer to completion and consistency. Then Mohamed explained further. After a stay of 2 weeks in hospital, he was taken to his grandmother's home village by his father. This was the time to say good-bye to his nanny and he reported in detail how sad this made him feel and what she had meant to him. After having lived in the village for one month, he was by himself at the seashore and all of a sudden, dead bodies were carried near him by the waves. Mohamed continued not without initial hesitation to describe the vision in detail: "*It was ugly, do you really want to know*?" Upon our reassurance, that we want to share every part of his story, he narrates: *"…first I thought people were out swimming. But I realized that there were about 20 floating bodies. They were black, there was blood, most of them were children, some women, even pregnant ones with big bellies and few men. The bodies were floating there with their faces up and eyes wide open…" Upon seeing this scene Mohamed describes how he fell into a state of shock: "…I started shouting and crying: 'wooohoo'* (we asked him to repeat the sound for us), *I was shaking all over, I could not move, although all I wanted to do was run away. I felt such fear, my heart was racing. I can even feel it now, just as I begin talking about this moment."* Again, it was easy for us to observe Mohamed's arousal while speaking. Also his face was drawn in repulsion. We fed back our observation to him and invited him to relive this moment again by verbalizing his feelings in detail. Then he continued. He was found in this state by his friends and taken home. Upon reaching home he reports: *"…the memory of the street shooting in Mogadishu had also come back. My nose was bleeding, I had a terrible headache and the pain in my back, where people had stepped on me came back…for one week I could not talk or eat."* He pointed to the place on his back, where he felt most pain, while talking. He described the concerned reactions of his father and grandmother and his slow recovery. A few weeks later Mohamed made the significant encounter of Halimo, a girl his age from the village, who became his most beloved best friend. Mohamed described her personality and looks in great detail and narrated to us small incidences of their friendship: *"…we liked each other instantly. Soon we were spending most of the time together and played games…we started giving little gifts to each other…Halimo was always there for me, she went with me and helped me forget all the bad things that had happened to me. We shared the roots of our hearts. Can you ever forget such a beautiful* *friend?"* At this point it was difficult for Mohamed to continue. He initiated a conversation about why he needed to report every bad thing that had happened to him. He said: "May be for this one it is enough, I will tell you another one in more detail that happened later". We reminded Mohamed, why we felt it was important that he shared all his life experiences, especially the most painful ones in great detail with us. We told him that those are the ones that make him suffer most up to today. We empathized with his obvious feelings of fear and reassured him that we will be there for him, no matter what the story will bring. Even though his arousal stayed high, he was ready to continue. As before he sat rather comfortably on a chair, he now pulled his knees up tight and embraces his legs with his arms. He continued. Mohamed and Halimo walked home from school one day, as they were attacked by seven militias: *"…one of them started shooting. It was rapid fire, one bullet hit my leg on the left side. At first I didn't feel the pain, then I noticed that my left leg was failing to function…then the pain came, it was a strong, pumping kind of pain…my hands were full of blood too. Then my leg became weak and I fell down…Halimo was crying and shouting: 'Mohamed get up, let's run, let's run.' Her face was full of fear, her eyes were wide open…I could not talk, I was just looking at her.'…"* Mohamed was knocked unconscious by the back of a gun. Meanwhile the men had gotten hold of Halimo and started to rape her. When Mohamed regained consciousness he observed the following: *"…Halimo's cloths were torn and she was naked. One of the men had pulled down his trousers to his knees. I saw him penetrating her, moving kind of up and down. One side of his face was very damaged, …it was all so ugly and disgusting, I was horrified…while the deformed man was raping Halimo, the others were standing there watching, laughing and shooting in the air. These were the sounds I could hear and they are ringing in my ear whenever I think of that day. Halimo's lips were swollen, bleeding, she was injured on her right cheek near the eye. Her eyes were wide open and dark. She seemed unconscious. I felt terrible pain, but I tried to move, shout, do anything, throw a stone at least, to make them stop, but I was frozen, paralyzed, I could not move. I was so angry. My body failed me completely, I was trapped. I felt so helpless. Since then I blame myself for not helping her…when the second man started raping her I fainted again, it was too much, too terrible to bear..."* We learnt that Mohamed's most recurrent intrusions were connected to the image of the deformed looking man raping Halimo. We invited him to tell us in detail, what the men's faces looked like, what Halimo looked like and what else he could observe, feel, hear, smell, think, etc. He was able to remember in great detail. At the end of this verbal recall Mohamed's feeling changed from fear to sadness. Tears were in his face and a strong expression of helplessness. He buried his head in his knees, resembling a small person carrying a great burden. We empathized with his feeling and gave Mohamed time to fully emotionally process his feelings of sadness and guilt. Since time was running out and Mohamed got tired, we decided to come to the end of session 2. We needed to make sure however, that in his narration and memory, Mohamed was at least taken to a somewhat comfortable place of safety and encouraged him to tell us how he was saved. He reported that he regained consciousness only in hospital. Again his father sat beside him, and held his hand.

Session 3 (90 minutes): Once again we re-read the documentation of session 1 with the added information of session 2 to Mohamed, encouraged him to relive emotionally intense moments and took note of any additional details which emerged, thereby bringing the narration of his first two stones - traumatic experiences - once again closer to completion. Then we explored further together. We learnt that Mohamed had a difficult time in hospital: *"...the nights in hospital were horrible, I couldn't sleep, I saw the face of the rapist, I saw everything red when I remembered. I could not eat, I was blaming myself for what had happened, I was feeling so guilty and angry. A very deep feeling of darkness came into my heart and has never left me up to today".* Mohamed described how he had started mistaking strangers, i.e. his doctor for the rapist and how he suffered flashbacks*: "...the doctor entered the room and for the first time the face of an ordinary man turned into the face of the rapist. I was terrified seeing him and screamed: 'I will kill you'."* Apparently, this happened to him again later. He reported how he tried to attack his teacher in school and innocent passer-bys in the street. During this time he also suffered nightmares, mainly about dead bodies floating in water and rape scene. He recalled remaining in a state of great fear while in hospital, even though he knew he was safe. He also talked about feelings of anger, tension and fury. He was unable to tell his father, who kept inquiring what had happened. His feelings of guilt remained strong even after he left hospital. Halimo's parents came to visit, but he did not want to see them*: "...I could not face them. I could not open the door. I felt so bad. How could she ever forgive me for not having helped her when she needed me most? Sometimes she comes to me in my dreams, even now, and she looks beautiful and kind, just like she used to. But I cannot forgive myself...*". His father took Mohamed to a small village were relatives lived. Mohamed recalled that there were many children, playing together, but he was unable to participate. He stayed indoors, watching what went on outside from the window. After 3 weeks, the war reached also this village. Mohamed was alone inside the house: *"There were explosions, fire and the sound of bullets all over the place…people ran around and fled to the forest. I was full of fear, shocked and paralyzed, but I ran behind the house. From there I could not move, I just stood there, my heart was racing and my whole body was shaking…one man was lying very near to me on the ground and was torn in two parts. A shell must have hit him…he was still crying and screaming, there was a lot of blood. The sight of him was horrible, it just looked so awful. All I did was close my eyes, I could not move…"* Once again Mohamed was seated in front of us with his knees pulled up. He accompanied his report with lively gestures, showing us, where the body of the man had been torn apart, how his interiors looked and how he closed his eyes when it all got too much. Finally Mohamed was rescued by his father and taken to a car. We learnt that the car started moving, but after a short while, the driver was shot dead through the windscreen, the car subsequently went off the road and Mohamed was catapulted out of it, unharmed. His father remained inside injured, but alive. This time it was Mohamed's turn to look after his sick and unconscious father in hospital and hold his hand at his bedside, worrying about his life. During this time Mohamed slept in the hospital beside his father and was fed by nurses. After a few weeks he and his father had left the hospital and settled in with friends in a new town. At this point in therapy we were aware, looking at Mohamed's lifeline, that all bad events, which he had marked as stones had been narrated. We closed session 3 by reinforcing Mohamed's feeling of pride for having had the courage and endurance to get medical help for his dad and care for him in hospital.

Session 4 (80 minutes): Again we re-read the consolidated narration of session 1, 2 and 3 to Mohamed, exposing him once again to emotionally intense moments and taking note of final additions and details; thereby bringing the narration to near completion. His state of arousal around traumatic experiences had come down immensely, but he still reported moments of increased heartbeat at times. We noticed that he now sat rather comfortably on his chair, listening intently (as we had invited him to do), so as to ensure that all was written down correctly, asking him to fill in more details here and there. By doing so, we went with him back in time and to the locations that caused his traumata. From there, we explored his life up to the present. We learnt that after two more displacements, Mohamed and his father reached Nakivale Camp in Uganda. His father got married, but this was obviously not a big event for Mohamed. He reported that he was burdened by the memories of the past in many ways by the time he reached Nakivale Camp. He reflected on how his traumatic experiences, had impacted on his life in the past, also indicating a cognitive shift in processing the meaning that the past experiences had had on his young life: *"...I kept seeing the pictures of Halimo and the day she got raped. They kept coming back to my mind. When I looked at the faces of men in such a state of memory and fear, any face in front of me could turn into the face of that deformed rapist. That's when I would loose control. All I wanted was to chase and beat up that person. I could get very angry then. If I got into that feeling with persons, who I liked or admired, I felt bad afterwards. It made me feel like as if there are two people inside me. People didn't understand why I acted strange sometimes, and I couldn't tell them. In the past, when I saw children playing and being happy, I had to cry because I could never do something like that again. Sometimes I found myself sitting in strange places...crying without having any idea how I got there. I felt as if there were two personalities living inside me. One was smart and kind and normal, the other one was crazy and violent. I tried so hard to control this other side of me, but I failed. Sometimes I felt tears running down my cheeks and I wondered why. Sometimes I walked down the street and suddenly I saw the path in the bush of that day in front of me and I felt Halimo's hand pulling my hand, trying to make us run and escape. Since that day I couldn't walk shortcuts anymore. Even a normal bush could bring back all the memories. And when the memories of the rape came, all the other pictures were in my mind as well, like the dead bodies in the ocean...for a long time I was completely absent, far away, dealing with the darkness in my heart."*

At the end of session 4 we asked Mohamed what his future plans were and encouraged him a bit to explore the end of his lifeline, yet unfolded. He replied: *"Now that I have talked about all that has happened to me, I would also like my father to know. I want him to read my story...I wish I can live like a normal person, get married and have children. I would like to be a doctor or a lawyer. I would like to help people."*

5. CLUSTER DISSEMINATION RANDOMISED CONTROLLED TRIAL

5.1. HYPOTHESES

This thesis tries to examine three main research goals:

1) Traumatic stress related experiences and psychopathology in children, who are growing up in a place of war:

- Typical for 'New Wars' we expect that a high proportion of the civil population suffers exposure to combat-related activities and organised violence; we therefore expect in Sri Lankan children from war-torn areas to present with a high number of traumatic stress related experiences.

- Number of experienced traumatic event types will present in a building block pattern on key indicators, such that psychopathology (measured as CAPS PTSD symptoms, CAPS functioning impairment, suicidality, depression symptoms) should become more likely with an increasing number of traumatic event types.

2) The efficacy of KIDNET in reducing psychopathology, especially PTSD, Depression and Suicidality in war-affected stayee children:

- Chronic PTSD in child survivors of war-related trauma can be successfully treated in stayee conditions despite possible ongoing conflicts and adversities (such as unstable and unsafe living conditions, reduced parental care, displacements, physical disease).

- KIDNET, a trauma-focussed therapy with exposure elements, will be more effective in remission of PTSD symptoms than a locally composed Meditation-Relaxation (MED) protocol.

- KIDNET will be equally effective than the local MED protocol from 'within the culture' in reducing depression symptoms and suicidal ideation.

- Children with PTSD and high rates of suicidal ideation will benefit from treatment; it is therefore not justified to withhold treatment from this group.

- Children, who are successfully treated with respect to remission of trauma symptoms, will also improve on measures of functioning, including school grades.

- The presence of ongoing violence and new traumatic experience will impact negatively on treatment success irrespective of treatment.

3) The efficacious disseminability of psychological screening and treatment skills for child trauma spectrum disorders to local lay counsellors:

- Local counsellors, who have successfully completed the described training, can adequately detect children with PTSD, functioning problems and depression symptoms.

- KIDNET, a trauma-focussed therapy with exposure elements, can be disseminated and applied successfully by locally trained lay personnel.

5.2. Rationale of the Treatment Protocols

The MED (Meditation/Relaxation) protocol was chosen to provide a comparison to the trauma-focussed and exposure-based KIDNET procedure. Also, most importantly, we wanted to compare KIDNET to a manualised 'treatment as usual' from within the culture.

Authors state meditation and relaxation as potentially useful, but yet understudied interventions for treatment child PTSD (Taylor et al., 2003), there is however little information on the breadth and speed of the effects of relaxation/meditation or on the incidence of symptom worsening. Marks et al. (Marks et al., 1998) found that relaxation training was moderately effective in reducing the global severity of PTSD symptoms. Although investigators found that relaxation tended to be less effective than exposure therapy or cognitive restructuring, the effects of relaxation are noteworthy because PTSD often remains unchanged in the absence of treatment (Taylor et al., 2003; van Etten & Taylor, 1998). Taylor (Taylor et al., 2003) hypothesises that relaxation might exert its effects by reducing hyperarousal symptoms. Once hyperarousal is reduced, the patient may be less distressed by trauma-related stimuli (Foa & Rothbaum, 1998) and, therefore, less avoidant. Thus, relaxation/meditation training might encourage exposure, even in the absence of formal exposure exercises. Further, the goal of mindfulness meditation is not only to train attention in a formal way, but also to enhance accurate and clear perception. Relaxation is certainly a benefit, however being awake, present and capable of mobilizing own resources to meet challenges moment to moment is another key effect; surely an important coping skill for children who grow up in a war environment.

5.3. METHODS

5.3.1. Setting

The present trial is part of an integrated evaluation scheme assessing the quality of a school psychosocial care program for war-affected children, which was implemented into the entire North-Eastern primary school system in Sri Lanka during the years 2002-2005[34]. Permission to carry out this study was obtained from the Ministry of Education, Basic Education Sector Program, Colombo, the Education Council of Tamil Eelam; the Directors of Education Vallikamam and Jaffna Educational Zones and the Principles of the respective schools. The ethical review board of the University of Konstanz, Germany approved the study protocol. Parents' informed consent was sought via parent-teacher conferences at the respective schools, held in presence of the teacher counsellor team and headed by the local supervisor of the counsellor team, as well as via teacher counsellors home visits to respective parents.

The selected study region is geographically located at the Northern most tip of the island. All inhabitants are ethnic Tamils, with a majority of Hindu, but also some few Christians and Muslims. The Northern part of Sri Lanka had been hard hit by the 20-year civil war between the government and the LTTE. The child population especially has been severely affected by war and its accompanying adversities such as displacement, breakdown of infrastructure (e.g. loss of schooling), loss of parents and family members and poverty. Only a ceasefire in 2002 brought a temporary halt to civilian war exposure, such as bombing, shelling, round-ups, forced recruitment of children as soldiers, among many other threats. Our treatment study took place two years later. Jaffna and Vallikamam educational zones were chosen on

[34] please see chapter 5 for detailed information on the implementation of this large-scale project.

the basis of favourable security and easy access to neighbouring school. Vanni, the place of our first epidemiological survey in 2003 (Elbert et al., in press) is a Tamil Tiger controlled area, with no facilities to accommodate foreigners and a range of access and security problems, which could have compromised the study at any time. Conducting our research from Jaffna also had the advantage that we could operate out of the Shantiham Centre for Health & Counselling, which had been our home base for training of Master Counsellors during 2002-2006. This also allowed us to recruit our most unique and excellent Master Counsellor Supervisor Kohila Mahendran as a training and research colleague and contract competent counsellors as Tamil/English translators for workshops and expert evaluation. We would also be able to refer children within an already existent mental health structure to appropriate care, should it be needed. Looking back to our findings of 2003 (Elbert et al., in press), we could later see that the Jaffna/Vallikamam children did not differ in any key indicator to the Vanni school population.

5.3.2. Screening

The Jaffna/Vallikamam school-survey in June 2004, preceded the treatment trial and served as a screening procedure. Six primary and primary/secondary schools in Jaffna and Vallikamam Educational Zones, namely: Annaikoddai RC School, T/Arunodhaya College Alaveddy, Holy Family Convent, J/Mallakam Maha Vidyalayam, Periyapulam Maha Vidyalayam, J/Piranpattu Kalaimagal Vidyalayam were selected for participation. The chosen schools differed in no known to us ways from other schools in the Jaffna area. Selection criteria were solely based on access to school (outside the high security zones) and in proximity to Jaffna town, were the group of interviewers was based. Survey outcomes are described in detail elsewhere (C. Catani, Schauer, Onyut et al., 2005; C. Schneider, 2005).

5.3.2.1. Procedure

The interviewers, a team of 35 already highly trained teacher counsellors[35], had been recruited from various educational zones. As part of a 21-day workshop, which took place in Jaffna, they received specific clinical training on trauma spectrum symptoms, diagnosis of

35 Teacher counsellors had been trained at two levels in the framework of the project: ‘Master Counsellor’ and ‘Befrienders’. For the purpose of this survey, only Master Counsellors were recruited. Please see chapter 5 for detailed information on teacher counsellor training and curriculum.

PTSD, its recognition in children and its treatment with Narrative Exposure Therapy (NET). The counsellors were also taught about the principles of quantitative data collection, including motivational and empathic interviewing techniques focused on children and adherence to ethical standards. They did not receive reimbursement for their services, but attended the certificate workshop for free.

The application of the questionnaire was practiced in role-play in the classroom during small group work. Corrections were immediately communicated back and intense discussion furthered the learning of the participants. Direct support on-site was extended by the local Master Counsellor Supervisor and three clinical experts from the University of Konstanz, including the teamleader, also during actual data collection in the schools. At the beginning and at the end of each of the four interviewing days, group and individual supervision was carried out to ensure mental and emotional wellbeing and commitment of interviewers.

Schools were chosen by method of convenient sampling. Children were selected for the interviews in a complete sample per each school. Principles were informed days prior to arrival of interviewers to prepare a comprehensive list, naming all children between the ages of 10-16 years inscribed in their respective school. On the day of the interview, children were called for interview class wise. The interviews took place in individual interviewer-interviewee settings in the school compound to allow for protection of safety and confidentiality. When a class was completed, the next would be invited to participate. Only children presented that day at school were interviewed.

General acceptance rates were excellent, with 99 percent or above participating across schools. A total of 474 interviews were carried out, 274 (57,8%) with boys and 200 (42,2%) with girls. Data of all 474 interviews is complete.

5.3.2.2. Instruments

5.3.2.2.1. Preparatory work in 2003

Already in 2003, our group had developed and validated a composite questionnaire for the purpose of an epidemiological screening of school-attending children, in the war-affected 'Vanni region' of Northern Sri Lanka (Elbert et al., in press). For purposes of school screening in this first study, local teachers were trained to apply: 1) a socio-demographic introduction part for gathering information on children's social, economic and familial life circumstances as well as adversities; 2) the UCLA PTSD Reaction Index (R S Pynoos, Rodriguez, Steinberg, Stuber, & Frederick, 1998) and 3) an added a set of questions on trauma-related functional impairment[36]. A Tamil language version of the complete interview set had been prepared using several steps of translation, blind back translation and subsequent corrections by an independent translator (B. A. Bracken & Barona, 1991).

For expert validation we used the PTSD part of the Composite International Diagnostic Interview- CIDI (World Health Organisation - WHO, 1997); the complete M.I.N.I. KID (Sheehan et al., 2002) and finally a set of cognitive and memory tests.

Validation resulted in a sensitivity of 62 percent, a specificity of 89 percent and a kappa of ~.80. Details on the development and validation of the "Vanni survey" questionnaire set are presented elsewhere (Elbert et al., in press).

5.3.2.2.2. The chosen screening instruments

The excellent validation results one year prior encouraged us to apply a slightly shortened, but at its core identical instrument regiment for the Jaffna/Vallikamam school screening in June 2004 (see attachment for full questionnaire set). The interviewing time was approximately 45min per child.

5.3.2.2.3. Why we chose the UCLA for screening

- **Part I: Socio-Demography** (developed for the "Vanni Survey 2003" (T. Elbert, Schauer et al., 2007):
    - name, age, grade, school of child
    - number of displacements;
    - parents being alive/dead and/or at home;
    - selected illnesses suffered in the past 4-weeks: cough, shivering, headache, pain, fever, vomiting diarrhoea.
- **Part II: UCLA PTSD Reaction Index for DSM-IV – Child Version, Revision 1** (R S Pynoos, Rodriguez et al., 1998), including its original event list in form of a brief life line trauma screen.
- **Part III: Functioning** (developed for the "Vanni Survey 2003" (T. Elbert et al., 2007)
- **Part IV: School grades** (scholastic functioning) of the respective last term, reported per child in terms of mean current grades for subject combinations: Tamil/English, Math/Sciences, Sports/Aesthetics:

Our decision to use the UCLA PTSD Reaction Index as the instrument of choice for screening by local teacher counsellors was based on the same reasoning for which the instrument had been initially developed: a) to be broadly used in any cultural setting, especially after major disasters and catastrophic violence as an integral component of public health response and recovery programs; and b) to carry out needs assessment, surveillance, screening, clinical evaluation and treatment outcome evaluation after mass population based events (Steinberg, Brymer, Decker, & Pynoos, 2004). Faced with the task of developing a large-scale school-based psychosocial service structure for war-trauma affected children, the UCLA PTSD Index seemed a culturally adequate, practical, short questionnaire, which can be applied by lay counsellors as a quick screening tool, as well as an evaluation tool with symptom frequency rates to monitor their counselling impact in terms of children's course of recovery. Researchers and clinicians at the UCLA Psychiatry Service have developed this series of self-report instruments to screen for both, exposure to traumatic events and PTSD symptoms in school-aged children and adolescents. Since it was conceptualised as a child self report form for ages 7-18 years, considerable effort had been placed on creating clear and succinct questions that would be easy to understand by respondents. We considered this fact a further advantage for our purposes, where non-clinicians were the sole applicants.

5.3.2.2.4. Properties and application of UCLA

The UCLA questionnaire starts with a brief lifeline trauma screen, including accidents, natural disasters, war, abuse and medical trauma. Each event is scored as either not experienced, experienced or witnessed. The number of different experienced and witnessed types of traumatic events was used by us for the estimation of the severity of trauma exposure. If more then one traumatic event is endorsed by the child, he/she is asked to identify the most bothersome and a brief description is recorded. The brief review of the event sets the stage for subsequent questions, in order to document satisfaction of Criterion A1. Part II focuses on exploration of A1 and A2 DSM-IV criteria. Finally part III provides a thorough evaluation of the frequency of occurrence of post-traumatic stress symptoms during the past month. Frequency is keyed 0 = never to 4 = most of the time. Twenty of the items assess PTSD symptoms, whereas two additional items assess the associated features fear of recurrence and trauma related guilt. At least one intrusion, two hyperarousal and three avoidance symptoms have to reach a score of 1 (at least 2 times in the past month) in order to assign a tentative diagnosis of PTSD. “Although the instrument was not designed to be diagnostic, it can provide preliminary diagnostic information” (Steinberg et al., 2004), and as was necessary in our case, aid in public mental health and therapeutic intervention planning.

Administration of the UCLA PTSD has been suggested in the following three ways (Steinberg et al., 2004): as a self-administered paper and pencil measure; one-on-one verbal administration, whereby the questions are read to the child; and finally in a group setting e.g. classroom, being read aloud or self-administered.

For reasons of in-depth counsellor training in diagnostic interviewing and to prevent errors due to misunderstanding, and knowing that most child self-report instruments provide only crude affirmations of prevalence rates, as a great number of false positives and false negatives are often produced (Sack, Seeley, Him, & Clarke, 1998; Yule & Udwin, 1991), we decided for the verbal one-on-one administration of the standardised instrument.

For the same reason we also decided to carry out direct child – counsellor interviews, excluding parental views on children’s post-traumatic symptoms and functional problems. Often investigations of children’s post-traumatic stress reactions have been limited to data that solely rely on parental report, even though authors have repeatedly shown disparity, mostly underreporting in parental reporting of symptoms (Almqvist & Brandell-Forsberg, 1997; Yule & Canterbury, 1994; Yule & Williams, 1990). Even though the “Vanni survey” validation had shown a 79 percent correspondence between the independent child and parent assessments in relation to PTSD, the result was not satisfactory enough for such a big resource investment. Based on reports from the literature and our own prior experience with the fact that children report accurately (Elbert et al., in press), we thought it sufficient to apply the child form of the UCLA PTSD Reaction Index and to exclude the parent and teacher form.

5.3.3. Expert Re-test

Between one-to-two weeks after the end of the school screening (end June to July 2004), a team of four clinical experts re-interviewed all 94 children who had presented with a tentative PTSD diagnosis in the school screening. Inclusion criteria were: experience of a traumatic event (A-Criteria) and a UCLA Index score of $\geq$ 6 points (in accordance with DSM-IV criteria for PTSD: at least 1 Intrusion, 2 Hyperarousal and 3 Avoidance symptoms).

5.3.3.1. Procedure

Interviews were carried out in quiet places of the school compound, wherever privacy and confidentiality could be assured. Interviewing language was English. Due to the fact that none of the children spoke English to the required level of comprehension, we employed independent senior counsellors from a local NGO called 'Shantiham Center for Health and Counselling' in Jaffna for translation into Tamil, the children's mother tongue. The Shantiham counsellors were prior to interviewing refreshed in their knowledge, especially on translation of CAPS terminology as well as code of conduct in the interview setting. Since these experienced counsellors had all been interpreting in the preceding teacher counsellor workshop, their technical capability was excellent. Additionally they were, as counsellors, experienced in building an empathic and motivating rapport with the children. Before each interview we assured that the child and the translator did not know each other or where not related to each other. Translators were encouraged to simply function as 'a voice', without adding any of their own interpretations. At the beginning of each interview each child signed an informed consent form (see attachment) following a detailed explanation on the content and procedure of the interview and the invitation to ask any prior questions. At the end of each interview children were thanked for having taken the time to talk to us. Again, children were given the opportunity to ask questions or engage in a conversation otherwise. Psycho-education was given to those who presented with PTSD and/or Depression and/or moderate to high levels of current suicidal ideation. Additionally follow-up by teacher counsellors in case of moderate to high suicidality for children who agreed to be helped (all did) or community social workers in case of domestic violence was arranged.

5.3.3.2. Instruments

The standardised expert interview (pre-test) in July 2004 composed of the following instruments:

- **Part I: CAPS Life Event Check List** (Nader et al., 1998)
- **Part II: CAPS-CA (Clinician Administered PTSD Scale for Children and Adolescents)** (Nader et al., 1998)
- **Part III: M.I.N.I. KID A. Major Depression and B. Suicidality current** (Sheehan et al., 2002)

The interviewing time was approximately 80-120 min per child.

5.3.3.2.1. Why we chose the CAPS

The Clinician Administered PTSD Scale for Children and Adolescents (CAPS-CA) is a structured interview for assessing post-traumatic stress disorder, diagnostic status and symptom severity (both frequency and intensity scores are derived for each individual symptom) as defined by the DSM-IV (APA, 1994). It can also be used to assess associated features of the diagnostic syndrome, such as guilt and shame. The interview is designed to accommodate different time spans, e.g. last week, last month and/or lifetime diagnosis. The CAPS was developed in collaboration with the National Center for PTSD and the UCLA Trauma Psychiatry Program in 1990 and has become a standard criterion measure since its inception. Research evidence indicates that the CAPS has excellent convergent and discriminant validity, diagnostic utility and sensitivity to clinical change. (Blake et al., 2000; Weathers, Keane, & Davidson, 2001)

The authors have also shown robust correlations of the CAPS-CA with measures of depressive symptoms and anxiety, which proof the substantial overlap between symptoms of PTSD, Depression and Anxiety and the difficulty to derive discriminant evidence. We chose the CAPS, since it is currently “the most valid measure of PTSD relative to other well validated structured interview and self-report instruments of PTSD” (Blake et al., 2000; Charney et al., 1998) and it can specifically track fine graduations of changes in symptom severity over time. Another key feature is its elaborate evaluation of the impact of symptoms on children’s functioning. A range of prompt questions and additional description of symptoms aid in the application, especially in our context in a different culture and help to minimise interviewer idiosyncrasies in formulating alternative questions.

5.3.3.2.2. Properties and application of the CAPS

The interview begins with a CAPS Life Check Event List to assess DSM-IV criterion A, the traumatic experience. Next according to CAPS instructions, three 'worst events' are selected by the child, which are then explored through all symptom categories. For the purposes of our study, based on a strong consideration to minimise time of interviewing, already prolonged due to added translation time, we worked with the child to help her/him identify only one worst event. This part was followed by standardised questions in relation to the 17 PTSD symptoms as outlined in the DSM-IV: Criterion B Intrusions (Item 1-5), C Avoidance (6-12) and D Hyperarousal (13-17). The CAPS-CA offers alternative intrusion questions for very small children, which we did not need to apply. Frequency ratings are made following a five-point continuum from the lowest (0 = never or none of the time) to the highest (4 = daily or all the time). The CAPS' unique feature of intensity rating, which asks both, symptom intensity and degree of impairment are also reported on a five-point scale from the lowest (0 = none or no problem) to the highest (0= extreme, incapacitating). It allows for a idiosyncratic differentiation of patients, e.g. those who experience a symptom rarely but with great intensity from those who experience a symptom often, but with mild intensity. A symptom is diagnostically valid when its frequency is $\geq$ 1 and its intensity $\geq$ 2. A severity score (frequency + intensity) can be calculated for each symptom in this way. This can be summed up for single symptom clusters or the entire syndrome. A severity score of 0-19 is considered asymptomatic, 20-39 mild, 40-59 moderate, 60-79 severe and $\geq$ 80 as extreme post-traumatic symptom load (Weathers et al., 2001). Finally onset and duration of symptoms are asked to satisfy the time Criterion E of the DSM-IV. We focused on the one-month period immediately preceding the interview (current diagnosis). Questions relating to distress, social and scholastic functioning as well as impact on developmental functioning, e.g. loss of acquired skills follow (Criterion F). The CAPS also allows for Global Validity, Global Severity and Global Improvement Rating. Associated feature questions, such as guilt, survivor guilt and shame, reduction of awareness in surrounding, experiences of derealisation and depersonalisation as well as subjective feelings of attachment are reported at the very end and are rated in the same way as trauma symptoms. Finally three last questions ask for resources that the child perceived as helpful or things that have actually helped her/himself to feel better.

Primary source of ratings were children's responses to initial and follow-up questions. Clinical judgments supported symptom rating.

5.3.3.2.3. The M.I.N.I KID for diagnosis of Major Depression and Suicidality

For the diagnosis of some of the most frequent co-morbid disorders in patients with PTSD, Major Depression and Suicidality (Elbert et al., 2007, in press; Famularo et al., 1996; Kessler et al., 1995; D. G. Kilpatrick et al., 2003; Kinzie et al., 2006; Mollica et al., 1999; Momartin et al., 2004; Thabet et al., 2004), we chose the respective modules A and B of the M.I.N.I KID – Mini-International Neuropsychiatric Interview for Children and Adolescents (Sheehan et al., 2002). The M.I.N.I. is a short, structured interview for diagnosis of psychiatric disorders according to DSM-IV criterion and has been especially recommended for epidemiological screening (Sheehan et al., 1998). Questions are easy to understand for children.

Major Depression is assessed for the past 2 weeks, Suicidality for 'ever' as well as the past month. We also omitted questions about Suicidality 'ever' and asked directly for Suicide risk current. Five questions are asked in a sequence, building up in intensity from suicidal thoughts 'did you wish you were dead in the past month?" to intentions "did you think about killing yourself" to behaviour "did you try to kill yourself in the past month?" Points are assigned ranging from 1 for the first questions to 10 points for the fifth. Suicide risk is calculated by adding the total number of points: 1-5 points = suicide risk low, 6-9 points = suicide risk moderate and $\geq$ 10 points = suicide risk high. For some of our analysis we clustered children in group: low risk = 1-5 points and moderate/high risk = $\geq$ 6 points. (Sheehan et al., 1998)

5.3.4. Enrolment for Treatment

The expert pre-test revealed that 47 children met enrolment criteria for inclusion in the treatment trial, that is, they presented with full diagnosis of PTSD according to CAPS-CA DSM-IV criterion. There were no other inclusion criteria. We offered all 47 children the opportunity to take part in the treatment study and all accepted. Twenty of the remaining 47 children, who showed sub-clinical PTSD symptom specificity according to expert diagnosis, were referred to counsellors for follow-up. Even though they did not meet the criteria from full-blown PTSD, they still either had elevated trauma symptom levels and/or depression symptoms and/or suicidal ideation. Some of the children were exposed to domestic violence or other psychosocial adversities, like extreme poverty or recent loss of parent that needed support in one way or the other. In agreement with the respective child, a referral list was compiled and handed to the Master Counsellor Supervisor for follow-up.

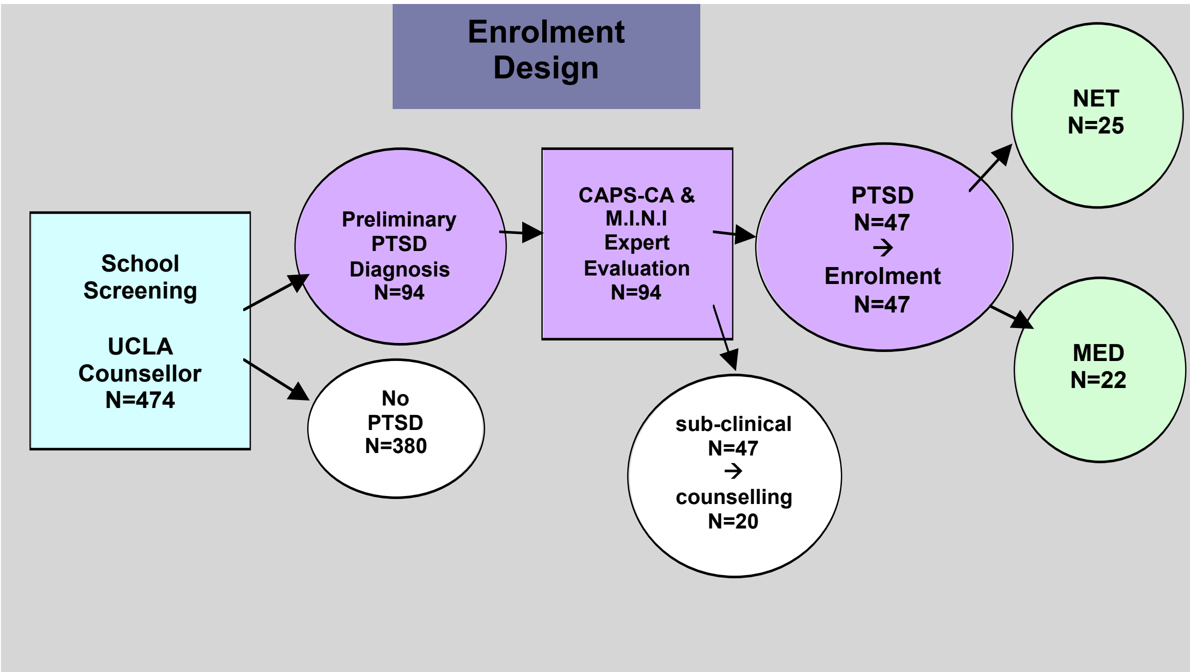


Fig. 11 Enrolment Design; see also 5.5.3. Flowchart

5.3.4.1. UCLA versus CAPS-CA results

Details of the Jaffna/Vallikamam School screening survey results are reported elsewhere (C. Catani, Schauer, Onyut et al., 2005; C. Schneider, 2005) However some important outcomes shall be highlighted here. Similar to our findings in 2003 (Elbert et al., in press), 19.93 percent of the interviewed children presented with a tentative diagnosis of PTSD (N=94) according to counsellor UCLA screening. In only 9.92 percent of children (N=47) this could be confirmed as a clinical diagnosis during expert evaluation with CAPS-CA. One reason could be that UCLA and CAPS-CA differ in relation to their minimum cut-off score. Whereby the UCLA only considers the criterion frequency and a minimum score of $\geq$ 6 points (1 intrusion, 2 hyperarousal, 3 avoidance symptoms in a frequency of $\geq$ 1), the CAPS is stricter in that an additional point score of $\geq$ 20 for criterion intensity has to be reached. Each item therefore has to be rated with a frequency of at least 1 (1-2 times last month) and an intensity of 2 (moderate) in order to be fulfilled. In our analysis we see that the CAPS intensity rating proves as a criterion of high specificity. The CAPS rates 13 percent of children as sub-clinical, who reach the symptom threshold in relation to frequency, however fail the cut-off points for symptom intensity. In a binary logistic regression we see that 90,2 percent of the variance is explained by the intensity ratings of symptom scales intrusion and avoidance (C. Schneider, 2005). This might explain the significantly lower rates of positive PTSD diagnosis in the CAPS-CA expert evaluation. Beyond statistical evaluation we have also seen that almost half of the children who could not be enrolled for treatment due to sub-clinical PTSD scores, still were in need of counselling and psychosocial assistance as a result of family violence, poverty, grief, depression, suicidality. Where the CAPS proofs a valid, strict diagnostic tool for clinicians with the ability to sensitively measure PTSD symptom distribution, the UCLA seems a valid tool for lay screeners in adversely affected populations, whereby it appears that a slightly wider spectrum of psychological disorders, those which often occur comorbid with PTSD are captured.

5.3.4.2. Randomisation

Randomisation was carried out via the schools the children went to. The names of the six schools were written on separate pieces of paper. A drawing took place whereby counsellors drew sealed papers in succession and schools were randomly assigned to treatment procedures KIDNET or Meditation/Relaxation in the following way: 1st draw = KIDNET, 2nd draw = MED, 3rd draw = KIDNET, etc. All children in schools 1,3 and 5 were assigned to the KIDNET group and all children in schools 2, 4 and 6 were assigned to the MED group. As a consequence of the randomisation procedure 25 participants were enrolled in KIDNET and 22 in Meditation/Relaxation.

Along the same logic, Master Counsellors who were employed as teachers in the children's respective schools were the ones chosen to carry out the treatment as assigned. They all agreed to do so. Altogether 14 Master Counsellors were engaged to carry out the treatments for this study. Each trained Master Counsellor was given the names of a minimum of two, maximum of four children for treatment. The Master Counsellor Supervisor had divided the number of children in the respective school by the number of available counsellors per school and alphabetically wrote the names out.

Each counsellor signed a form detailing counsellor ethics, code of conduct and confidentiality. They were awarded a bonus of Sri Lankan Rupee 750,00 (Euro 5,00) per completed six session treatment according to protocol[37]. Children who presented with moderate to high scores of suicidality ($\geq$ 6 points, M.I.N.I KID, suicide rate current) according to expert evaluation, were supervised closely by Prof. Somasundaram, consultant psychiatrist at Jaffna hospital at the time of the study. For some of the children with high-risk suicide current scores, treatment took actually place in an outpatient setting at the hospital counselling rooms. Professor Somasundaram also supported and supervised the respective counsellors who gave therapy to suicidal children. All other treatments took place in counselling rooms in the respective schools outside school hours.

5.3.4.3. Informed Consent & Psychoeducation

Parents were approached by the counsellors in their homes and informed about the objectives of randomised controlled trials and the benefits and risks of this study during a joint parent-teacher meeting at the schools. All parents signed a standardised informed consent form, agreeing to their children being enrolled into the treatment study.

Children were contacted individually and separately from their parents by the teacher counsellors at school to allow for independent decision-making. Standardised psycho-education guidelines had been prepared together with the counsellors during the training workshop, which counsellors were encouraged to follow closely. An informed consent form had been prepared respectively for the KIDNET as well as MED group[38]. Counsellors informed all children in detail about the concept of PTSD and its common features, the goal and the intentions of the study, as well as the benefits and limitations and risks involved.

Neither parents nor children received any form of compensation for their participation.

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[37] since teacher counsellors are fully employed by the Sri Lankan school system an additional salary was felt not appropriate; even though assigned to a stricter than usual protocol, the counsellors were still carrying out their expected work in the school.

[38] please refer to Appendix for sample of Informed Consent and Psycho-education text NET and Meditation/Relaxation in English and Tamil.

5.3.4.4. Preparation of counsellors

Separate preparatory meetings took place with the group of seven KIDNET counsellors and the seven Meditation/Relaxation - MED counsellors. Counsellors were asked to individually prepare a treatment time schedule for each of his/her assigned child. Six treatment sessions had to be fitted into a 3-4-week overall treatment time per child. Counsellors could give therapy to children parallel, but they had to ensure adequate time between each session (spacing) and for administration (writing of KIDNET narration or filling-out of treatment protocol). The duration of a single treatment session was limited to 90 min. An ideal time of 60-80 min was advised.

5.3.4.5. Treatment adherence and supervision

Once treatment had started, weekly meetings were organised by the Master Counsellor Supervisor, separate for the KIDNET and MED group for monitoring purposes. Focus of the group meetings were treatment adherence, case supervision and emotional wellbeing of teacher counsellors.

During supervision the KIDNET group discussed detailed accounts of the children's life history recorded so far and especially procedural issues around the work on 'hot spots' (exploration of the traumatic events). The finalised Tamil narrations where first reviewed by the Master Counsellor Supervisor and also translated into English for review by clinical experts.

The MED group focussed on discussion of detailed observation on the children's reported current anxiety related emotional and physiological problems, her/his behaviour and acceptance of Meditation/Relaxation exercises. Tamil protocol sheets were reviewed by the Master Counsellor Supervisor and translated into English for clinical expert review. During each group meeting counsellor were given space to report on their own mental-emotional state and were supported to find solutions for perceived problems or challenges.

In addition, selected treatment sessions were directly observed by the Master Counsellor Supervisor (minimum of one session per child). No major deviations from treatment protocol were detected in either of the groups.

Whenever a treatment was complete, the counsellor would indicate end of treatment to the Supervisor and hand over all notes, protocol sheets and/or narrations for confidential archiving. No documents were to remain with the respective counsellor. Children were offered to keep a copy of their narration.

5.4. Treatment

In each group, the first session always began with psycho-education about the nature and prevalence of PTSD symptoms, its relationship to the events experienced, including a brief look at the child's specific functioning problems and its relation to the disorder. This was followed by an explanation of the treatment procedure. A standard written rationale had been developed with the Master Counsellors during their training for both procedures and translated into Tamil and English respectively[39]. Then counsellor and child agreed on a convenient time schedule. From here onwards the treatment regiments differed for KIDNET and MED. Tabl. 1 shows the treatment protocol outline in brief below.

5.4.1. Narrative Exposure Therapy for Children - KIDNET

Based on the English NET manual[40] a Tamil translation had been prepared for the purposes of Master Counsellor training. Each Master Counsellor was in possession of a copy of the Tamil manual and KIDNET was carried out as outlined in the manual. In KIDNET, the participant constructs a detailed chronological account of her/his own biography in cooperation with the therapist. The autobiography is recorded by the therapist and corrected with each subsequent reading. Special focus of the therapy is on the transformation of the generally fragmented report of traumatic experiences into a coherent narrative. During discussion of traumatic experiences, the therapist asks for current emotional, physiological, cognitive and

[39] please see Appendix for 'psychoeducation NET' and 'psychoeducation MED' documents in English and Tamil.

[40] (M. Schauer et al., 2005)

behavioural reactions and probes for respective observations. The participant is encouraged to relive these emotions while reporting the events. The discussion of a traumatic event is not terminated until habituation of the emotional reactions presented and reported by the patient takes place. (Neuner, 2003) In the last session each child received a written report of her/his biography in Tamil language. Since counsellor had been freshly trained on KIDNET in a 21-day workshop prior to the study, no further training was required.

5.4.2. Meditation/Relaxation - MED

In our attempt to answer to critics of 'trauma-focused' interventions, who postulate that own traditions, meaning systems and cultural priorities are compromised by 'western, medicalised' forms of recovery in resource poor settings of the developing world (Summerfield, 1999), we asked the local Master Counsellor group, under the leadership of the Master Trainer M. Kohila to independently develop the comparison protocol for the trial. Only requirement was a time frame of six sessions (60-90 min) and a manualised approach. Whereas in many studies, relaxation and meditation protocols are applied as a 'better waiting list', we intended this protocol as an active intervention for comparison. Having prepared the MED manual independently, the teacher counsellors had a very strong motivation to show its usefulness. All of those randomly selected for the application of the MED protocol were extremely convinced of its benefits for the children. Interestingly enough the manual comprises of multi-cultural meditation/relaxation exercises. It borrows from Hinduism, e.g. mantra chanting, peace & light meditation; Buddhism, e.g. mindful breathing meditation and Western-based practices, e.g. progressive muscle relaxation (Jacobson, 1938; Meichenbaum, 1977). Before treatment began, the chosen MED group rehearsed the Meditation/Relaxation protocol under tutorship of Master Counsellor Supervisor Kohila Mahendran and the author. Counsellors were already familiar with the individual exercises due to their prior 8-months counselling training, so the focus of the meeting was on treatment adherence and sequencing. Counsellors were reminded that they should stay as much as possible in the 'Here and Now' and encourage the child to talk about meditation/relaxation related use of coping strategies and relaxation response for better functioning in daily life.

5.4.3. Treatment Protocols

Treatment Protocols (Tab. 1)		
Session	KIDNET–Narrative Exposure Therapy	MED - Meditation/Relaxation
1	Psycho-education; Establish time plan with child; Carry out Lifeline exercise; Child makes a drawing of lifeline–mark events; Start KIDNET (1)	Psycho-education; Establish time plan with child; Identify special complaints and present daily worries of child; Start Breathing Exercise
2	Re-read narration from KIDNET 1, Expose & note additions; Continue exploring life line; Update testimony	Breathing Exercise; "Inner Peace Meditation"; Discussion; Breathing Exercise
3	Re-read narration from KIDNET 2, Expose & note additions; Continue exploring life line; Update testimony	Breathing Exercise; Uchchadana Mantra Chanting; Discussion; Breathing Exercise
4	Re-read narration from KIDNET 3, Expose & note additions; Continue exploring life line; Update testimony	Breathing Exercise; Progressive Muscle Relaxation; Discussion; Breathing Exercise
5	Re-read narration from KIDNET 4, Expose & note additions; Continue exploring life line; Update testimony	Breathing Exercise; Ice Cream Relaxation; Discussion; Breathing Exercise
6	Re-read narration from KIDNET 5, Expose & note additions; Hand over final testimony, Signing ritual	Breathing Exercise; Light Meditation; Discussion; Breathing Exercise, termination discussion.

5.5. Post-Tests

5.5.1. 4-weeks post-test evaluation by counsellors

All children who had received treatment were re-assessed by independent teacher counsellors exactly 4-weeks after their last therapy session had taken place. The core intention was not so much to measure symptom course and functioning progress, but to make sure that children did not feel left alone after such an intense period of self-exploration and have an opportunity to report their personal experiences and well-being since end of treatment. The chosen counsellors were from the trained pool of teacher counsellors, but had not been involved in giving treatment and were therefore blind to the treatment condition and were also not employed by the respective school of the child they interviewed.

The exact same instrument set was applied as for the Jaffna/Vallikamam school survey pre-screening.

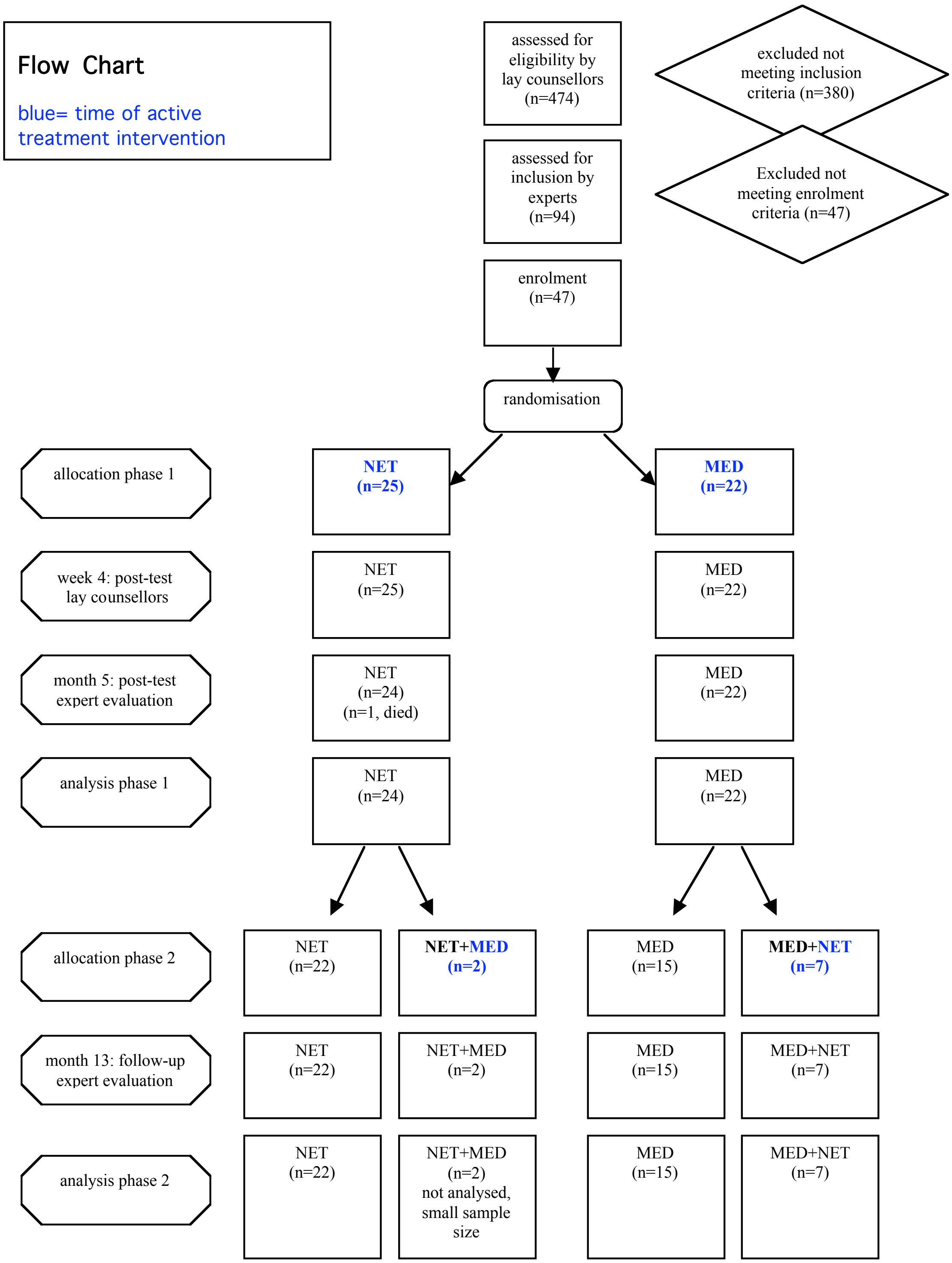
5.5.2. 5-months post-test (p1) & 13-months follow-up (f-up) by clinical experts

At 5-months and 13-months time points after end of treatment the psycho-pathological status of the children was assessed by clinical experts from the University of Konstanz group who were blind to the individual child's treatment condition and to the school randomisation. Post-tests took place at children's schools.

The standardised expert interview: post-test (p1) April 2005 and follow-up (f-up) January 2006 composed of the following instruments:

- **Part I: CAPS Life Event Check List** (Nader et al., 1998)
- **Part II: CAPS-CA (Clinician-Administered PTSD Scale for Children and Adolescents)** (Nader et al., 1998)
- **Part III: M.I.N.I KID**: Modules A. Major Depression and B. Suicidality (current) (C. Catani, Jacob, Schauer, Kohila, & Neuner, submitted; C. Schneider, 2005; Sheehan, Shytle, Milo, Lecrubier, & Hergueta, 2002);
- **Part IV: School grades** (scholastic functioning) of the respective last term, reported per child in terms of mean current grades for subject combinations: Tamil/English,

5.5.3. Flow Chart



5.6. RESULTS

5.6.1. Participation

Overall 47 girls and boys from 6 different schools in the Vallikamam and Jaffna Educational Zones were offered treatment. As shown in flowchart (chapt. 5.5.3.), enrolment in treatment occurred in a two-stage model.

In stage one, as a consequence of the randomisation procedure, 25 children were offered Narrative Exposure Therapy for Children (hereafter referred to as 'KIDNET'; N=16 girls) and 22 Meditation/Relaxation (hereafter referred to as 'MED'; N=13 girls). All of the children agreed to participate and all children completed the full treatment; there were no drop-outs. All subjects who were randomised to treatment, except one child from the MED group, who died in the tsunami disaster, were included in the analysis.

5.6.2. Socio-demographic characteristics

<u>Children's age and school attendance</u>

The children's age ranged from 11 – 15 years, with a mean of 13.1 years (*SD* = .89) and a median of 13.0. There was no significant age difference between the KIDNET (mean of 13.08 years, *SD* = .76) and the MED (mean of 13.14 years, *SD* = 1.04) group. There was also no significant age difference between the enrolled boys and girls in relation to treatment received and gender (mean girls KIDNET = 13.06, *SD* = .85; mean boys KIDNET = 13.1; *SD* = .60; mean girls MED = 13.0, *SD* = .91; mean boys MED = 13.3, *SD* = 1.2).

On average children had attended school since 8 years (*SD* = .89), with individual school attendance varying from 6-10 years. Again, no significant difference was found between children in the KIDNET (8.12 years, *SD* = .73) versus children in the MED group (8.0 years, *SD* = 1.01).

Baseline comparison of pre-test data KIDNET vs MED group		
	KIDNET (N=25)	MED (N=22)
Age	13.08 (SD= .76)	13.13 (SD=1.03)
# physical diseases	3.96 (SD=1.6)	3.23 (SD=1.1)
M.I.N.I A symptoms	3.88 (SD=20.1)	3.36 (SD=19.9)
Suicide risk current	7.4 (SD=11.2)	7.1 (SD=11.3)
CAPS symptom pre	63.2 (SD=17.7)	71.2 (SD=19.8)

Tabl. 2 displayed are group means and standard deviations (SD); none of the group differences were statistically significant

Displacement

Overall children in the sample had been displaced from home twice in their young lives, with a range of 0-5 times. For the KIDNET group this resulted in a mean of 2.16 (*SD* = 1.3) versus 1.77 (SD = 1.19) for the MED children.

Number of displacements split by treatment group KIDNET and MED

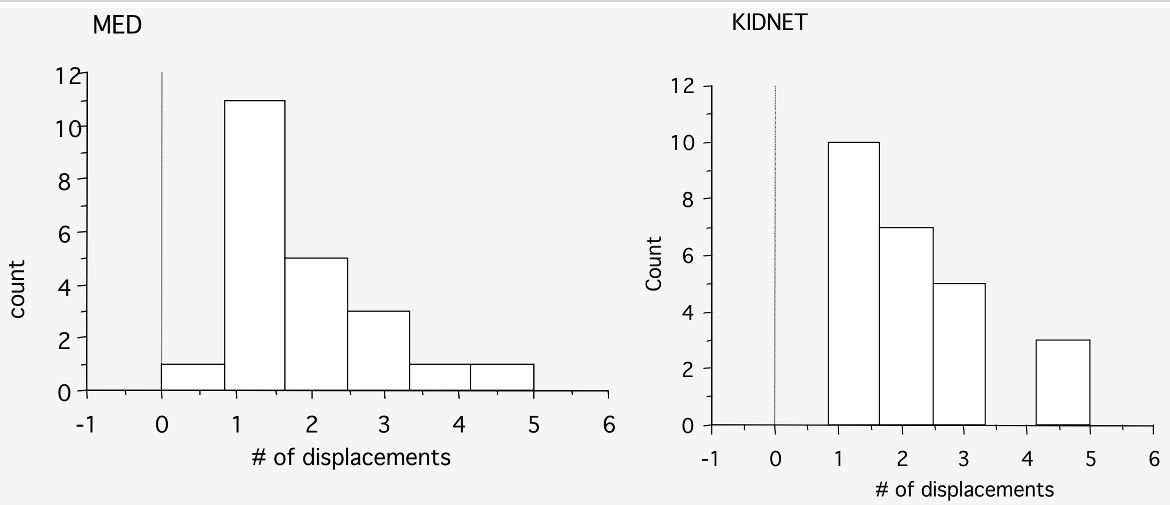


Fig. 12 shows a comparable distribution for each treatment group

On analysis the distribution of the two groups in respect to number of displacement was comparable (Mann-Whitney test U = 226,5; $p > .3$, n.s.), allowing the assumption that exposure to adverse stressors such as war turmoil and loss of home has affected the children equally. Except for the regrettable loss of one child's life in the tsunami, the natural catastrophe did not have a direct traumatic impact on the children, since participants' homes are located several kilometres inland from the coast.

<u>Absence of parents</u>

In the NET group 20 percent of the children had lost their fathers and 8 percent their mothers. Overall 32 percent of the children in that group lived without a father in the home and 9 percent without a mother. In the MED group 18 percent of children were paternal orphans and 9 percent maternal orphans respectively. Also here 32 percent of children lived without a father in the house and an astounding 19 percent without their mother. There was one full orphan in each group.

5.6.3. Children's traumatic event load

<u>Number of traumatic events</u>

In our treatment group children had experienced on average a total number of 6 different types of traumatic experiences (CAPS # of events, *SD* = 2.55; median = 6.00; range of 2-13 (!) events) in their young lives. The event load showed a normal and comparable distribution for both the KIDNET (mean = 6.12; *SD* = 2.6) and the MED (mean = 5.95; *SD* = 2.5) group (see Fig. 13 below).

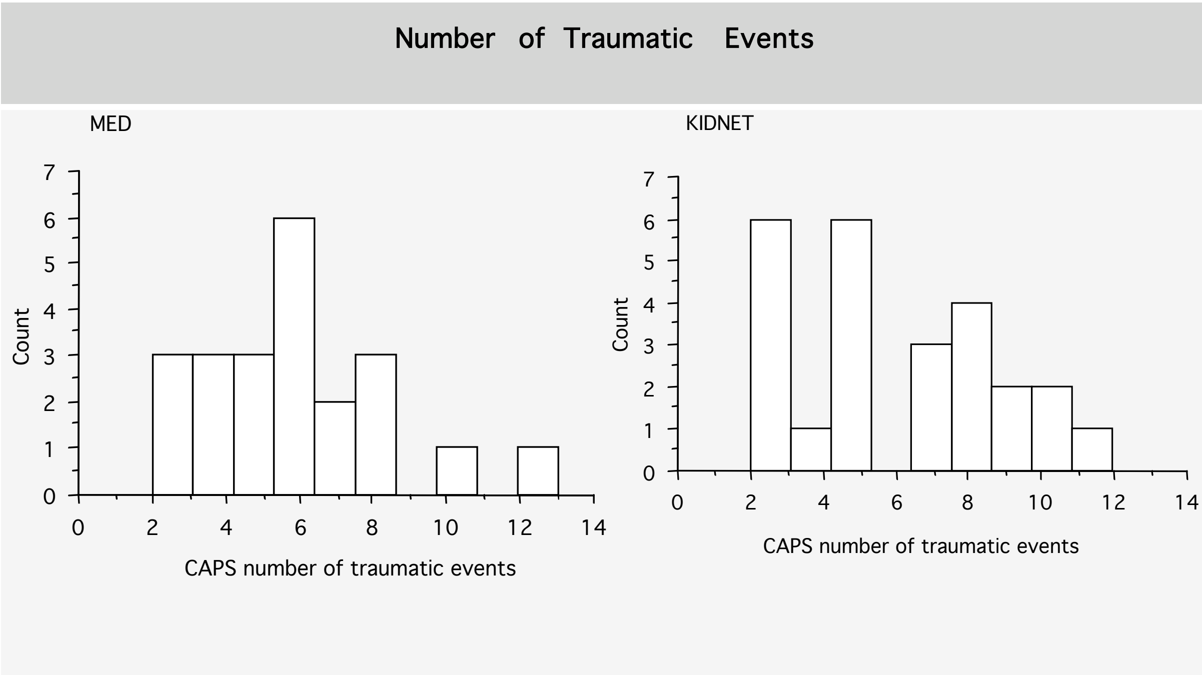


Fig. 13 Number of traumatic events types split by treatment

As expected for a war zone childhood (see Tab. 3 below), two-thirds of the children had actually been in a combat situation and two out of five children had been involved in scenes of physical violence often exerted with weapons and guns. Equally elevated is the rate of children who report witnessing the violent death of a person. More than a third of the children report having lived through severe human suffering and/or surviving a life threatening illness of injury. Interestingly also the rate of exposure to transportation accidents is frequent. Sexual assault, such as rape, attempted rape or other sexual violence has surprisingly been reported as non-existent. The event type E9 is reported as having been experienced by one child. Looking at the UCLA local counsellor screening results, where E8 and E9 are merged into the more subtle question “having an adult or somebody much older touch your private sexual body parts, when you did not want to”, we find an experience frequency of 4,3 (N= 2). Even though the result can be considered consistent, a possible underreporting bias can be assumed, based on an earlier school-screening in Vanni (Elbert et al., in press).

Traumatic Events Types

CAPS Traumatic Event Experience/Witnessing at pre-test		
Type of Traumatic Experience	Experienced %	Witnessed %
1. Natural disaster (flood, cyclone, earthquake, etc)	27,7	--
2. Fire or explosion	14,9	29,8
3. Accident – transport (car, cycle, boat, etc)	25,5	31,9
4. Accident – other (play, school, home, etc.)	17,0	17,0
5. Exposure to toxins (chemicals, radiation, etc.)	8,5	27,7
6. Physical assault (attacked, hit, kicked, slapped, etc)	19,1	40,4
7. Assault – weapon (shot, stabbed, gunned, bombed, etc)	8,5	40,4
8. Assault – sexual (rape, sexual act through force, etc.)	0	0
9. Unwanted sexual experience	2,1	0
10.Exposure to war zone, combat (bombing, shelling, etc)	59,6	14,0
11. Captivity (abduction, kidnapping, locked-up, etc)	4,3	14,9
12. Life-threatening Illness/Injury	36,2	23,4
13. Severe human suffering	31,9	10,6
14. Sudden violent death (witnessing homicide, suicide)	--	38,3
15. Sudden unexpected death of somebody close to you	10,6	21,3
16. Serious injury harm death you caused to somebody else	2,3	--
17. Any other (very stressful experience)	14,9	10,6

Tabl. 3 Frequency Distribution of Traumatic Events experienced and/or witnessed

The worst event

To measure the impact of the traumatic event as well as the frequency and intensity of trauma symptomatology and functioning impairment, the CAPS diagnostic interview asks patients to define one worst traumatic experience in comparison to all events that have happened.

The most frequent (34,0%, N=16) worst ('most frightening' or 'most horrible') life experience was identified by the children in category CAPS E10 *'combat or exposure to a war zone'*. Examples for worst event descriptions in this category are:

"I was caught in a shelling crossfire between the army and the LTTE."

"I was 100m away from a temple when they started bombing from the air."

“I saw 4 people die in the neighbour house, being ripped by shells.”

“when we were all at home when the pieces of the house came down during bombing.”

“when the bombs fell, two people from my family died, one lost a leg.”

“when we were displaced, I saw many people died and injured after shelling.”

“I was in an aerial bombing, my mother and sister died, I got injured, taken to hospital.”

“I was screaming, the shells were very close, many children died.”

“there was shelling and firing by the army, mutilated bodies, lots of blood.”

“when I saw headless army bodies being transported on a truck.”

“a shell fell, auntie’s body went into pieces, just there in front of me.”

“when I saw a dead body cut, arms were cut out, shelling was going on around me.”

The next most prominent worst event experience was CAPS E14 (19,1%, N=9) *‘witnessing sudden violent death of a person’*. Examples are:

“I witnessed my neighbour hanging himself with a rope. I could not stop him.”

“I saw two people cutting one person, he died in front of my eyes.”

“I saw militants beating a person to death with the back of their guns.”

“I saw my mother and sister drink poison, because my father always beat them.”

“I witnessed my father being shot in the displacement camp by the army. He died.”

“I witnessed a murder, people killing with a knife. I hid myself alone.”

“I saw a person cut to death by army, all in pieces.”

“I saw a girl in the house put herself on fire.”

E7 *‘assault with a weapon’* (10,6%, N= 5), E3 *‘transportation accident’* (12,8%, N= 6) and E6 *‘physical assault’* (14,9%, N= 7) were other important worst event types chosen by the children. Examples are:

"when I witnessed a bus accident, where one person died."

"my father hit my brother with the bed pole, his face was full of blood."

"thieves came into our house, threatened to kill us, took goats and children."

"witnessed how a mother was shot at, she was with two girls."

"a child fell from a tractor, the head came under the wheels, all smashed, terrible sight."

"I get punished by my mother, she uses a stick so many times a day."

"my grandmother was burned with a cigarette, she could not help herself, I was there."

"I saw a violent fight, my father tried to kill my brother with a knife."

"my neighbour killed his son with a knife, saw body, had a deep cut at throat."

"my mother and father fought, mum pored kerosene on herself, both got burned."

"a motor bike knocked me down, my leg was broke and I was taken to hospital."

5.6.4. Treatment Analysis phase 1 (pre-test → p1)

Explanation to data analysis:

Our trial is a cluster-ransdomised trial. Developments in the statistics allow all the patient level data to be utilized in cluster-randomised trials, whilst accounting for the intracluster correlation (ICC), thus increasing the statistical power of the analysis. Test statistics based on chi-squared or F-tests were divided by the design effect, t-test or the z-test were divided by the square root of the design effect. Adjustments for these and other tests such as nonparametric tests are discussed by Donner & Klar (Donner & Klar, 2000). The design effect was determined as follows: 1 + (n – 1) rho where n is the average cluster size and rho is an estimate of the ICC. The design effect in our case is therefore 1+7*rho. The adjusted values are presented in the text only, when the level of significance was reached for the uncorrected values. The ICC rho was calculated as variance between schools/(variance between schools plus variance within schools).

CAPS trauma, CAPS functioning and M.I.N.I. depression results at 5 months expert post-test (p1)

The mean CAPS symptoms in the KIDNET group at time point pre-test were 63.2 (*SD* = 17.5) and reduced to 34.9 (*SD* = 30.3) at time p1; the MED group pre-test score was 71.2 (*SD* = 19.8) and reduced to 36.9 (*SD* = 33.3).

Pre-test – p1 comparison data KIDNET vs MED group		
	KIDNET (N=25)	**MED (N=22)**
CAPS symptom pre	63.2 (SD=17.7)	71.2 (SD=19.8)
CAPS symptom p1	34.9 (SD=30.3)	36.9 (SD=33.3)
PTSD diagnosis p1 (N)	15	13
% no PTSD p1	65.3	68.5

Tabl. 4

The analysis of treatment impact at time point 5-months post treatment (p1), revealed a highly significant reduction of CAPS trauma symptoms (CAPS total sum score pre/p1 ($F(1,38) = 57.9$; $p<.0001$) irrespective of treatment (CAPS sum core pre/p1 x treatment ($F(1,38) = 1.8$; n.s.)[41]. The effect size for treatment KIDNET pre/p1 was established as 1.57; the effect size for treatment MED pre/p1 as 1.23. At time point p1 65,2 percent of children who have received KIDNET were diagnosed without PTSD, compared to 68,4 percent in the MED group.

[41] The F-ratio adjusted by the design effect, as explained earlier, would be even smaller.

Treatment effect on CAPS Trauma symptoms - KIDNET vs MED at p1

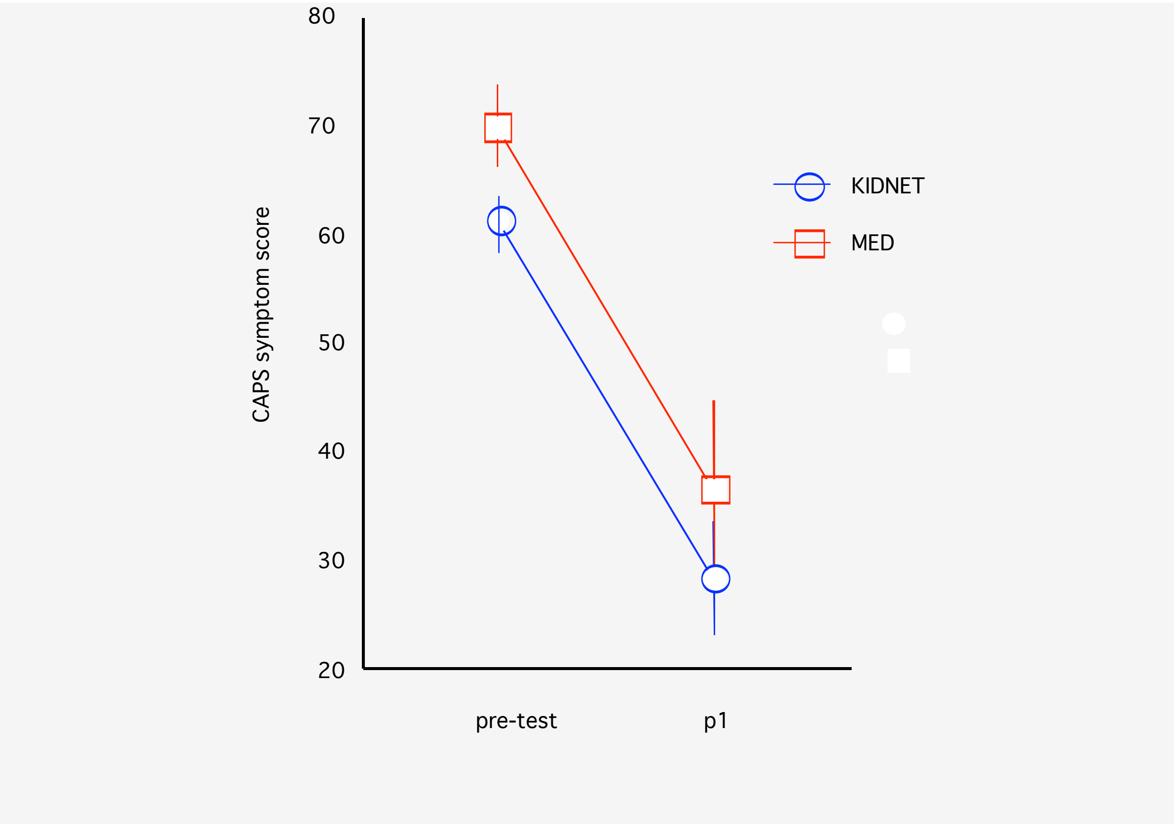


Fig. 14 group (cell) means represent the CAPS symptom score, error bars mark standard errors

Looking at PTSD symptom remission according to treatment received we see a similar remission pattern for all three symptom clusters: intrusion, avoidance and hyperarousal. UCLA was applied by local counselors in the pre-screening process and only one more time at 4-weeks post-treatment. Except for the preliminary presentation of health data, and a comparison of UCLA 4-weeks post-test with CAPS 5-months post-test, no further analysis of UCLA data is presented here. Epidemiological outcomes of the UCLA-based school screening are presented elsewhere (C. Catani, Schauer, Onyut et al., 2005; C. Schneider, 2005).

Symptom remission in comparison
UCLA (pre – 4-weeks post) & CAPS (pre – 5-months post)
Intrusion, avoidance, hyperarousal

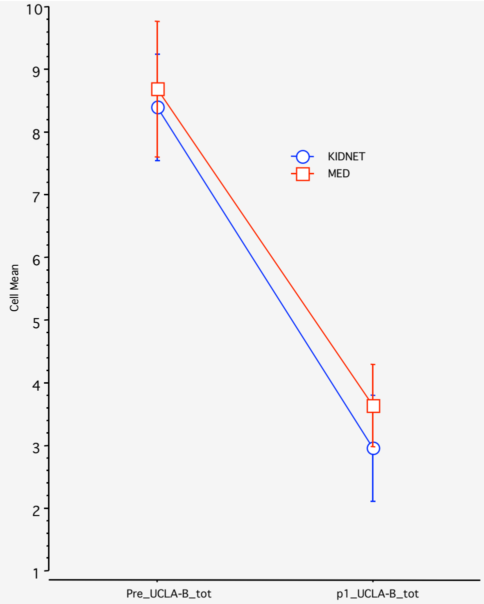


Fig. 15 UCLA symptom remission intrusion

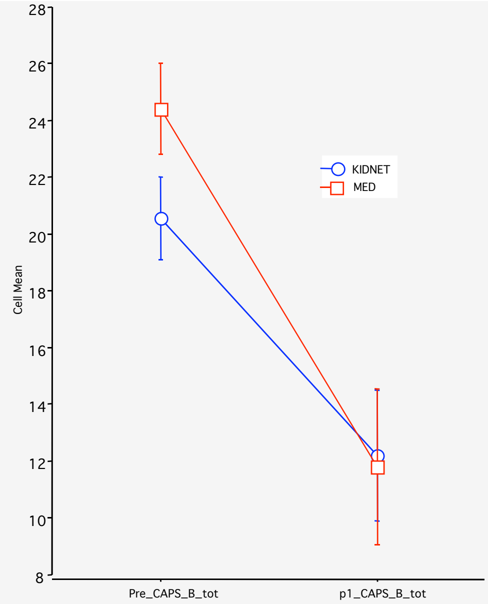


Fig. 16 CAPS symptom remission intrusion

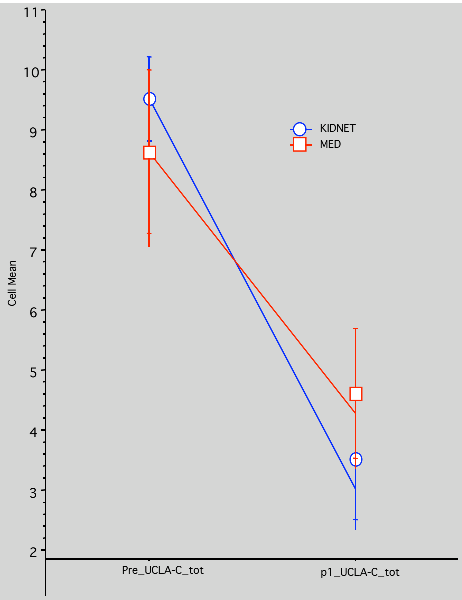


Fig. 17 UCLA symptom remission avoidance

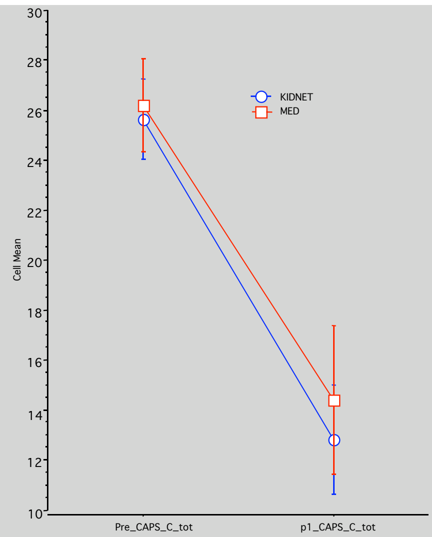


Fig. 18 CAPS symptom remission avoidance

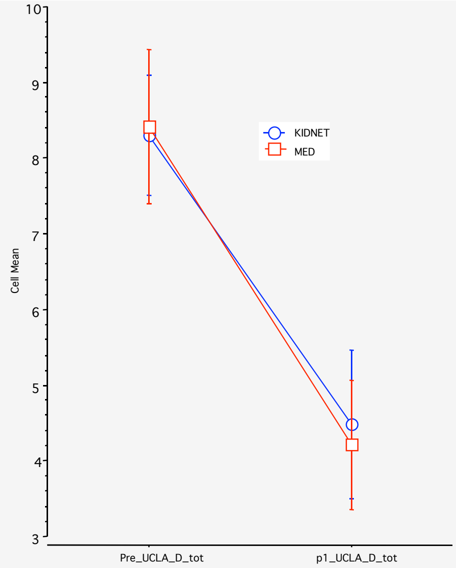


Fig. 19 UCLA symptom remission hyperarousal

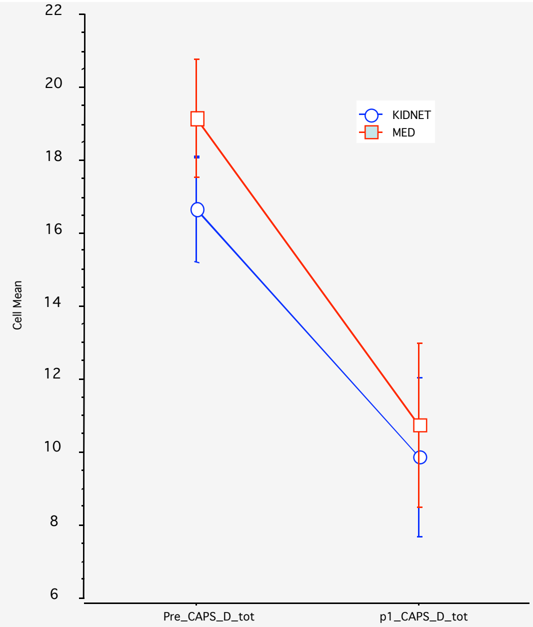


Fig. 20 CAPS symptom remission hyperarousal

Also the significant reduction of trauma symptoms as measured by UCLA counsellor post-test at 4-weeks timepoint (which amounted to 50 percent) was mirrored by the CAPS expert post-test at 5 months (which amounted to 45 percent) see Fig. 15-20 and could be shown as significant for all schools (see Tabl. 5).

Change in UCLA & CAPS trauma symptom score by school (Tabl. 5)

	Mean	DF	t-Value	P-Value
change UCLA, Total	.504	46	4.840	<.0001
change UCLA, Anaikkoddai	.507	8	1.902	.0936
change UCLA, Arunothaya College	.696	4	2.926	.0430
change UCLA, Holy Family Convent	1.290	3	4.953	.0158
change UCLA, Mallakam	.405	7	1.848	.1071
change UCLA, Periyapulam	.448	9	2.903	.0175
change UCLA, Piranpattu Kalaimahal	.251	10	.926	.3762
change CAPS, Total	.449	42	6.996	<.0001
change CAPS, Anaikkoddai (MED)	.502	7	3.222	.0146
change CAPS, Arunothaya (MED)	.657	2	1.855	.2047
change CAPS, Holy Family (KIDNET)	.672	3	4.467	.0209
change CAPS, Mallakam (MED)	.416	7	3.144	.0163
change CAPS, Periyapulam (KIDNET)	.436	9	3.543	.0063
change CAPS, Piranpattu (KIDNET)l	.296	9	1.923	.0866

At time pre-test 29.5 percent of children presented with Major Depression. There was no significant gender difference. Mean depressive symptoms M.I.N.I. A in the KIDNET group at time point pre-test were 1.16 (*SD* = .65) and in MED were 1.32 (*SD* =. 77). A reduction of M.I.N.I. depression symptoms after treatment at time point p1 ($F(1,38) = 2.54$; $p<.11$) irrespective of treatment took place (see Fig. 21) . The effect size for treatment KIDNET pre/p1 on depression was established as .40; for treatment MED pre/p1 .22.

Treatment effect on Depression - KIDNET vs MED at p1

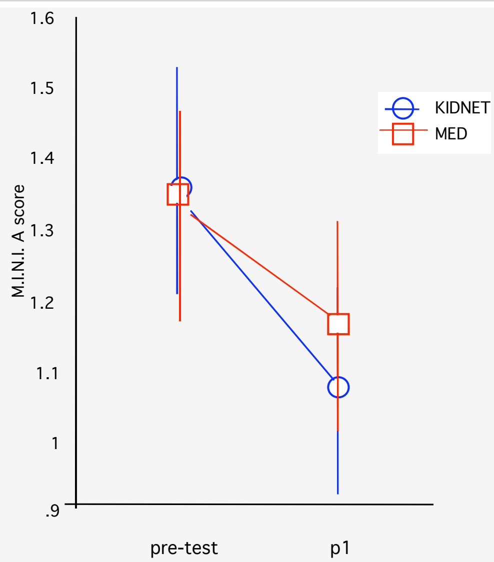


Fig. 21

A highly significant change was observed for improvement in overall Functioning (CAPS functioning score) pre/p1 ($F(1,41) = 46.1$, $p<.0001$), irrespective of the treatment group children were allocated to ($F(1,41) = .24$; n.s.) (see Fig. 22). There was also no significant gender effect.

Treatment effect on CAPS Functioning

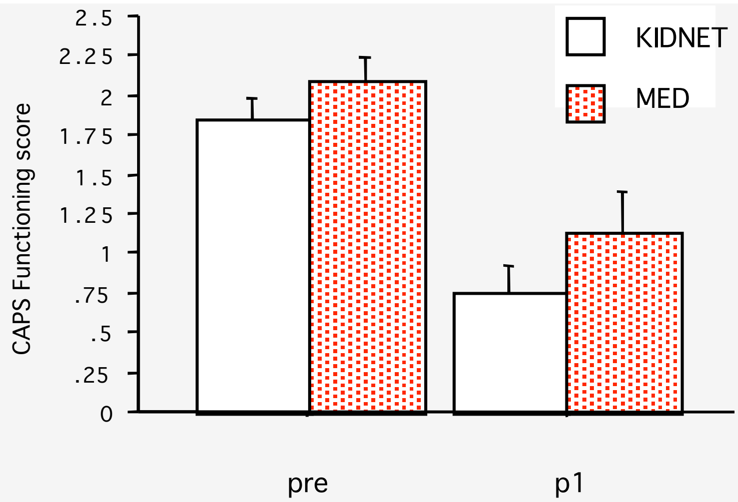


Fig. 22 CAPS Functioning at pre-test and 5-months post-test (p1)

<u>The impact of Domestic Violence and new traumatic events on remission of trauma and depression symptoms</u>

At p1 children had experienced on average 1.6 (range of 0-6) new traumatic events since pre-test. The observed level of ongoing Domestic Violence (DV) of 23 percent (N = 11) at p1 in the sample was extremely high and the individual experiences severe. The affected children reported beatings, intentional burnings, fixation with rope, being starved and long time isolation.

Both treatments were significantly less effective in terms of reduction of trauma symptoms if ongoing domestic violence was present (see Fig. 23 below, CAPS sum score pre/p1 x Treatment x p1 DV, $F(1,38) = 4.8$, $p<.05$) or if new traumatic experiences had occurred (CAPS sum score pre/p1 x new events $F(1,38) = 8.1$, $p= .007$).

Impact of ongoing DV & new traumatic events on treatment

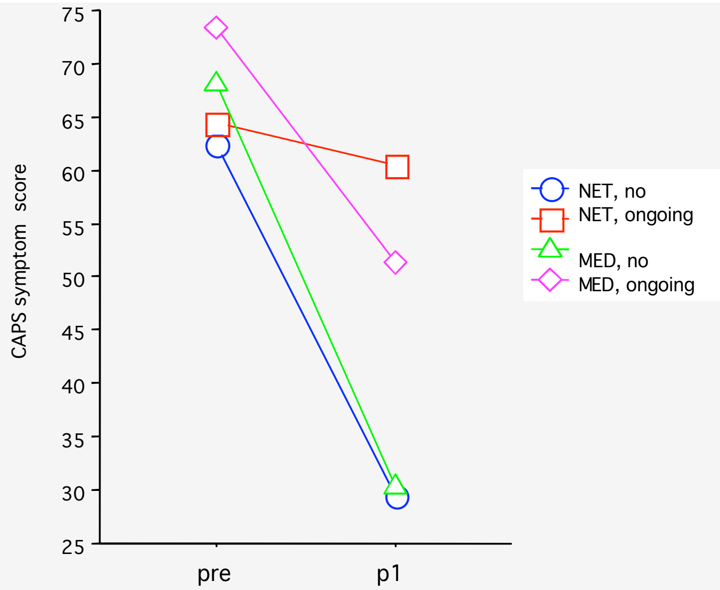


Fig. 23

In contrast, there was no significant effect of new events on the remission of depression symptoms. However, a reduced treatment effect on CAPS functioning score ($F(1,39) = 2.79$, $p<.10$) appeared, when new traumatic events had occurred.

We assume that the presence of ongoing Domestic Violence (DV) and the experience of new traumatic events since end of treatment added a continuous potential for new traumatic stressors and a high level of daily emotional and mental burden on the affected child, which impacted negatively on treatment success, equally for the KIDNET and MED group. A detailed analysis revealed that in the presence of ongoing domestic violence and new events a significant reduction of trauma symptoms, as well as the improvement in functioning was hindered specifically in the KIDNET group, or in other words, KIDNET proved exceptionally effective, especially in functioning improvement if no new traumatic events (between pre-test and p1) were present ($F(1,22) = 32.3$, $p<.0001$). In the presence of new events (Fig.

23) treatment effect of KIDNET (CAPS functioning improvement) was compromised ($F(1,22) = 5.3$, $p<.031$).

Counsellors' clinical judgement

Since this treatment study was designed as an evaluation also of the hypothesis that locally trained teacher counsellors are able to apply KIDNET successfully in a post-war setting, great importance was given during training to the counsellor's acquisition of clinical and diagnostic skills, especially in relation to Trauma and Depression symptomatology. For ethical and educational reasons we allowed a reversal of treatment protocol after completion of 5-months post-test (p1), if counsellors felt that the particular child had not benefited enough from the initial treatment offered.

Counsellors decided that 10 children had not improved sufficiently in their opinion. We wanted to see whether there was a correlation between ongoing domestic violence or the experience of other new traumatic events and counsellors' decision. We also wanted to compare counsellors' clinical judgement with the actual outcome of p1 CAPS sum score and Functioning level.

Overall, 2 children from the previous KIDNET group and 7 children from the MED group had been offered a reversed protocol after 5-months by the counsellors. The majority of these children however did not experience ongoing domestic violence. There were only 2 children who experienced DV and were reversed (N=1 previously in KIDNET and N=1 previously in MED). Nine children who actually did experience DV at p1 did not receive further treatment (N=4 from KIDNET; N=5 from MED). The two children from the prior KIDNET group who were reversed, presented with the absolute highest number of new events since end of treatment, each with 6 new traumatic events. No further statistical analysis could be performed, due to small group size. The 7 previous MED children, who received KIDNET later, reported a much lower new traumatic event load (mean of 1 traumatic experience since end of treatment, range of 0-3).

A statistically significant higher number of children who previously had received MED and who were not exposed to DV at p1 were enrolled into the reversed protocol scheme (N= 2 from KIDNET; N= 6 from MED) by the counsellors. In other words 10 percent of the children with no DV from the KIDNET group were reversed in comparison to 38 percent from the MED group ($\chi 2$ =3.9, p<.05)

To answer the question on whether the local counsellors had based their decision on clinically valid assumptions, we calculated a repeated measure ANOVA with CAPS sum score levels at pre-test and post-test1 and decision to reverse protocol hereafter.

Looking at the interaction line plot (Fig. 24) we observed that the children later referred to reversed protocol had already started out with a higher mean CAPS symptom score (mean of 75.0, *SD* = 21.4) versus the non-reversed group (mean of 63.5 at pre-test, *SD* = 16,4). Similarly, the reversed group had not benefited equally from the treatment given. CAPS symptoms score reduced only 10 points (mean of 65, *SD* = 38.9) versus 36 points (mean of 27.8, *SD* = 23.8) in the non-reversed group. The difference is significant ($F(1,40) = 12.9$, $p<.0009$). An interaction of time (pretest--p1) x group reversed vs non-reversed ($F(1,40) = 6.6$, $p<.014$) indicates that CAPS-values for the group 'reversed protocol' decreased significantly more than for the group 'non-reversed protocol'.

CAPS-values 'reversed protocol' vs 'non-reversed' based on counsellor decision

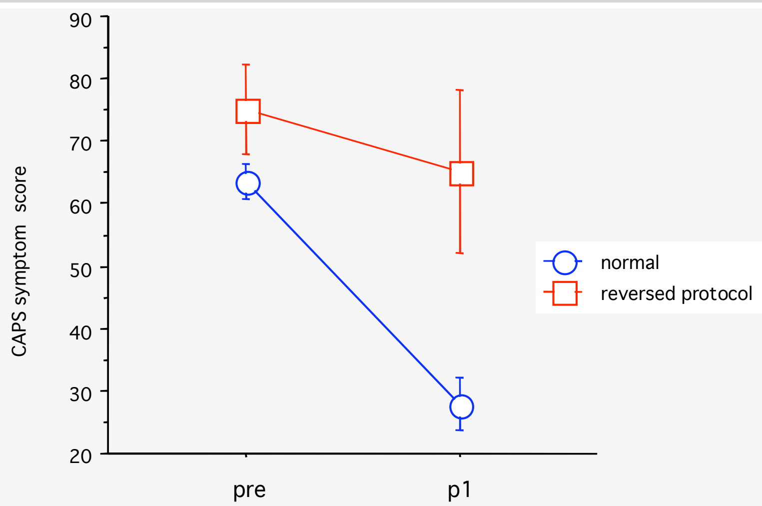


Fig. 24

A look at the change in median CAPS values at p1 shows the same result, in that the CAPS total median of the non-reversed group had almost reduced to 20, whereby the reversed group median remained at 75 points (see Fig. 25 below).

CAPS Median for group 'reversed protocol' vs 'non-reversed'

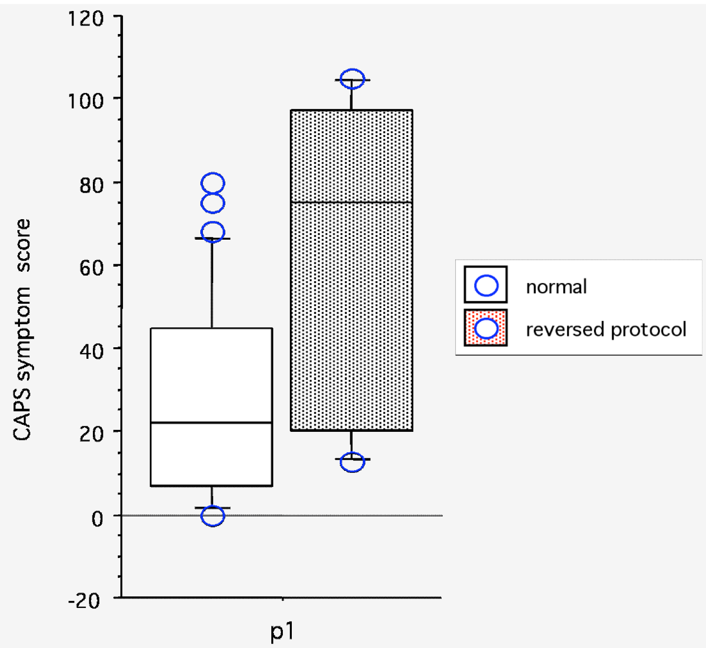


Fig. 25

Based on CAPS sum score results at p1, counsellors' decision to reverse protocol appears correct for the majority of children. Counsellors rate the KIDNET procedure as 90 percent and the MED procedure as 62.5 percent successful. However as Fig. 25 (above) shows, there are three children who remain with a high symptom score without receiving additional treatment and one child with a low score receives treatment, however couldn't possibly benefit, since his/her CAPS score was already reduced to zero.

Along the same line of thinking, we were now interested to see whether beyond CAPS trauma symptoms and levels of CAPS functioning, other criteria might have been considered by counsellors to estimate additional therapy need? An ANOVA analysis of the M.I.N.I. Depression rating and level of suicide risk current at p1 in relation to administration of reversed protocol by counsellors was carried out.

As illustrated in Fig. 26, a significant M.I.N.I. Depression symptom x reversal of protocol interaction was found ($F(1,41) = 5.25$, $p<.05$) even though not as strong as for trauma and functioning scores. Outliers indicate again that counsellor based their judgement on more holistic view points, than a set of clinical symptoms.

Reversed protocol at time point p1 based on M.I.N.I. Depression symptoms & Suicide risk current

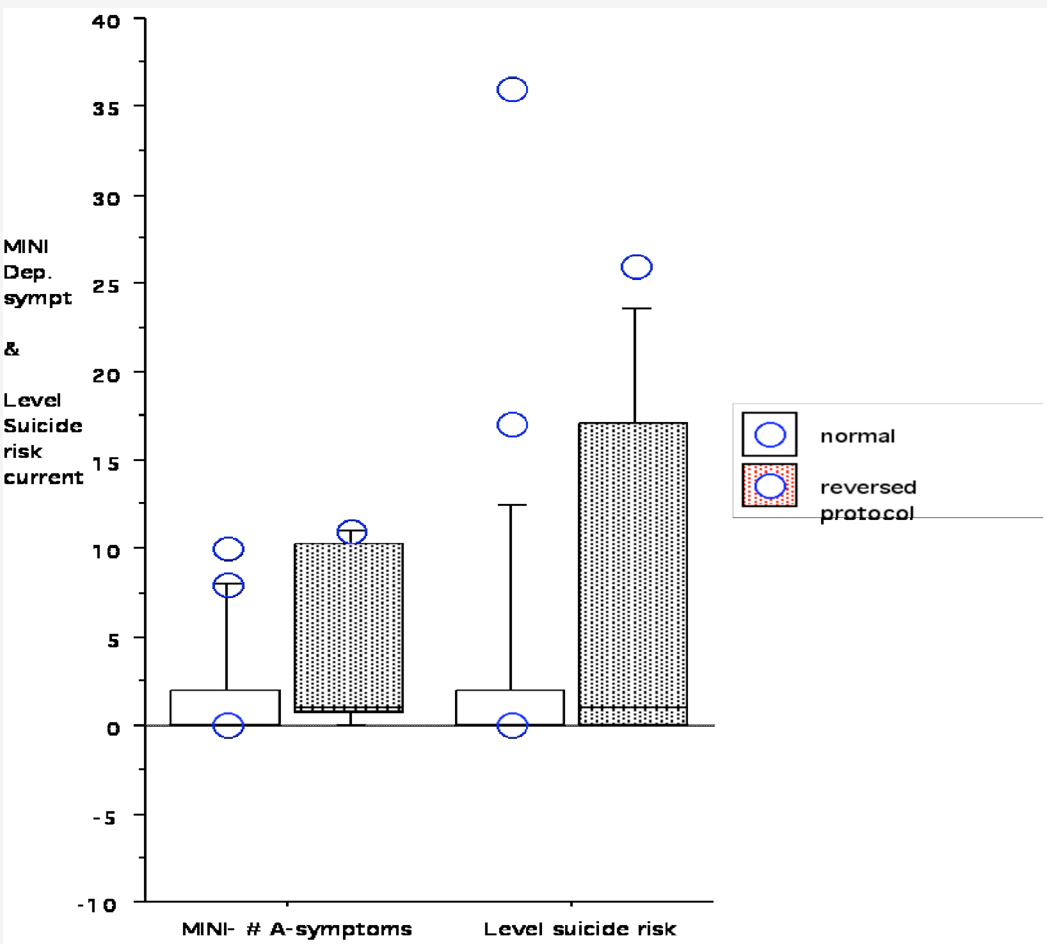


Fig. 26

Health Indicators

With regards to health indicators a highly significant reduction of symptoms of illness can be observed ($F(1,45) = 21.85$, $p<.0001$). Measurements were taken during pre-screening and 4-weeks after completion of treatment by the local counsellors only (see Tabl. 6 below). Especially shivering, fever, pain and vomiting reduced by a third to one half. Headache, a health problem often co-morbid with PTSD, had remitted in 10 percent of the children during short-term follow-up. Prevalence of diarrhoea remained unaffected at this early time point. Unfortunately no screening for health indicators was included in the 5-months expert post-test (p1) and 13 months follow-up (f1). When comparing treatment induced changes in health outcomes, no level of significance could be established between the two different treatment types ($F(1,45) = .54$), n.s.)

Health Indicators at time point pre-test and p1

health problems %	Cough	shivering	headache	pain	Fever	Vomiting	diarrhoea
pre	53	38	81	64	75	36	15
4-weeks	46	18	72	32	47	21	13

Tabl. 6 presents health outcomes in % for the time points pre and 4-weeks post treatment

5.6.5. Treatment Analysis phase 2 (pre → p1→ f-up)

The final post-test took place at 13-months post-treatment (f-up) in January 2006. At this time point only 44 children remained in the sample for analysis. One child, who had died in the tsunami was taken out of the analysis altogether. According to counsellor's judgement 4 groups ahd been formed at this time-point and in this composition were taken further into analysis: KIDNET (only), MED (only), MED (first) + KIDNET (later) and KIDNET (first) + MED (later). The sample size for the two children in the 4th treatment component KIDNET (first) + MED (later) proofed to small for analysis and is not shown furthermore.

Impact of Treatment on Trauma

From p1 to f-up a further reduction of CAPS symptoms can be noted irrespectively of treatment received (see Fig. 21 below). At last follow-up only 6 children or 13.6 percent (N=4 missing data; not included in analysis) remained with a diagnosis of PTSD.

Impact of treatment on trauma symptoms at all 3 time points

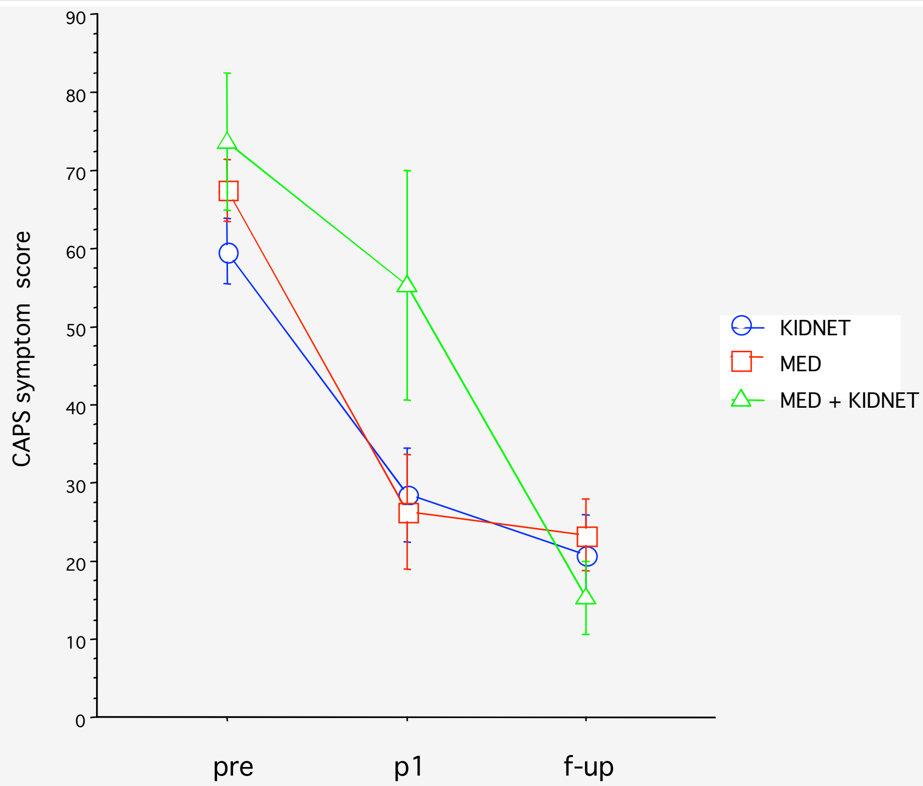


Fig. 27 Interaction line plot for CAPS total sum score results

Looking at Fig. 27 we can observe that the three groups, which resulted after counsellor's judgement, the two prior KIDNET (only) and MED (only) groups remained stable over time. A significant reduction of trauma symptoms becomes obvious now for the MED group, who had additionally received a full KIDNET therapy, according to reversed protocol (p1 – f-up). Actual time of measurement is 6-months after end of KIDNET treatment.

<u>Impact of Treatment on Depression over all 3 time points</u>

A similarly powerful treatment effect overall could be observed looking at the M.I.N.I. depression score, with further improvement from p1 to f-up, irrespective of treatment group. Of the 29.5 percent at time point pre-test only 5 percent of children remained with a diagnosis of Major Depression at time point follow-up.

M.I.N.I. Depression symptoms over all 3 time points

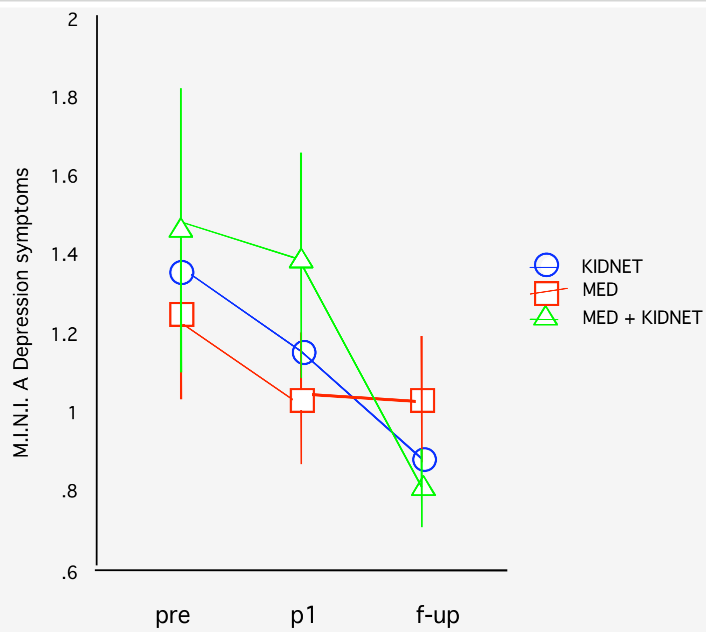


Fig. 28

Looking at Fig. 28 above figure we see a further reduction of depressive symptoms after p1 up to f-up in the groups who received KIDNET (only), however not in the group who received

MED only. This translates to a zero diagnosis of Depression in the KIDNET (only) group, zero in the MED (first) + KIDNET (later) group and one in the MED alone group.

In summary, we observe that there are subjects with and without clinical depression in the final test. The limited sample sizes however do not allow to further differentiate groups into sub-groups with or without depression in terms of statistical testing.

Impact of treatment on CAPS functioning score over all 3 time points

Also the repeated ANOVA calculation of CAPS functioning score x time and treatment mirrors the success of the treatment intervention (see Fig. 29 and Tabl. 7).

CAPS Functioning over all 3 time points

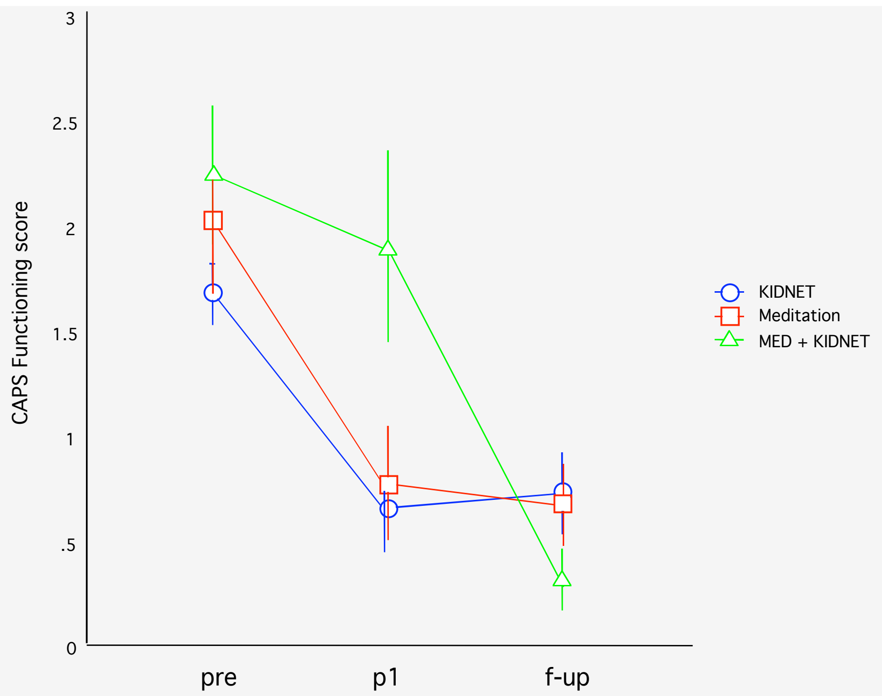


Fig. 23

Recovery of Functioning Impairment by Treatment			
%	pre-test	p1 5-months	f-up 13-months
KIDNET	100	37,5	43,7
MED	100	35,0	30,0
MED + KIDNET	100	86,3	13,3

Tabl. 7 shows mean % of CAPS functioning impairment over time

Impact of Treatment on Level of Suicide Risk Current

Additionally to PTSD, elevated levels of depression and impaired functioning, we observed a high overall suicide risk current (M.I.N.I. diagnostic criteria) in our child sample at time point pre-test (27 percent), which remitted dramatically in all three treatment groups over time. There is no gender effect, neither at time point pre-test nor in terms of course of remission. In the end in the KIDNET (only) group 1 out of 5 children remained with a suicide risk current, in the MED (only) group 1 out of 3 remained and in the reversed protocol group MED (first) + KIDNET (later) zero out of 2 children remained with suicide risk current.

Remission of Suicide Risk			
% suicide risk current	pre	p1	follow-up
KIDNET	27.3	18.8	5.3
MED	26.7	8.3	8.3
MED + KIDNET	28.6	28.6	0.0

Tabl. 8 shows the mean number of suicide risk current at all 3 time points

As can be seen in Tabl. 8 (above) and Fig. 30 (below), counsellor's seem to have based their decision to reverse protocol also on symptoms of suicidality, since moderate to highly suicidial children, who had so far not experienced symptom reduction in suicidality (all from the MED first group), were selected for reversed protocol for KIDNET (MED first + KIDNET later). These children profit greatly from an add-on KIDNET treatment and symptoms at time point f-up (actual time passed since end treatment 6 months) remit to zero for this group. The KIDNET only children continue to profit over time, since there is still further remission between p1 and f-up. Treatment benefits in the MED only group remains stable over time.

Level of Suicide Risk current at all 3 Time points

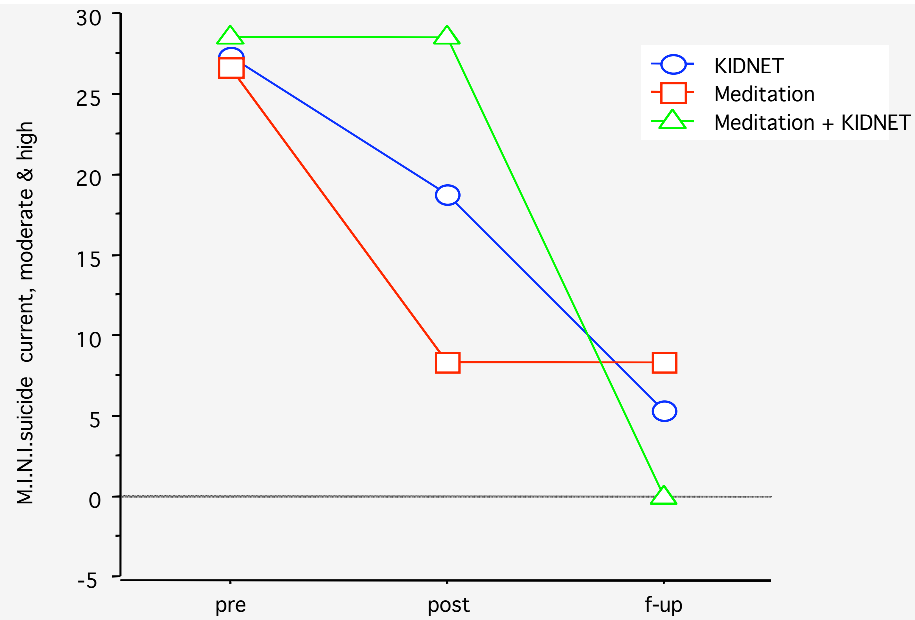


Fig. 30

Do suicidal children benefit from treatment?

In a next step we were interested to know, whether children who suffer from PTSD and have a co-morbid moderate to high suicide risk, benefit equally from treatment (independent of treatment type) in comparison to those with PTSD, but zero to low suicide risk. M.I.N.I. diagnostic criteria offer 3 levels of suicide risk current: low (1-5 points), moderate (6-9 points) and high ($\geq$ 10) points. For our calculations we included all children who scored 6 points and higher at pre-test time point. Accordingly, the 'no risk group' are all children who were diagnosed with a suicide risk of 0-5 and the ‘suicide risk group’ are all children with ≥ 6 points.

To observe the interaction of trauma symptoms (CAPS sum score) x suicide risk current x time (pre, p1, f-up) we calculated an ANOVA and found a highly significant reduction of CAPS trauma symptoms total ($F(1,37) = 35.5$; $p<.0001$). The distribution shows a higher entry level of symptoms for the group ‘suicide risk’ (mean of 71,9) versus ‘no risk’ (mean of 63,1), but a parallel decrease pattern.

CAPS trauma symptoms and suicide risk current over all 3 time points

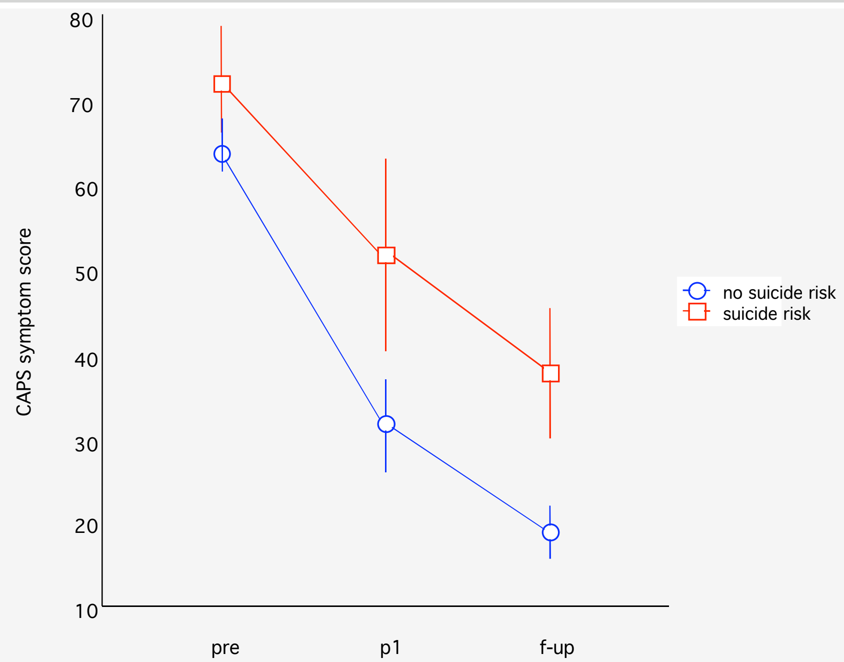


Fig. 31

Similarly the calculated CAPS functioning x suicide risk interaction shows an almost identical distribution to Fig. 31, with a highly significant reduction of suicide risk overall in relation to CAPS functioning score ($F(2,76) = 24.6$; $p<.0001$). Or in other words, even the moderate to high suicide risk group benefits significantly in form of recovery of functioning (interaction line almost parallel to ‘no risk’ group.). However the ‘no risk’ group starts and remains at a lower level (mean of 1,8) and recovers much more dramatically (mean of .41, *SD* = .53) versus the ‘suicide risk’ group’s starting mean of 2.1, *SD* = 1.0 and an end mean of 1.08, *SD* = .96. Expressed in percentage, the no risk group saw a reduction in functioning impairment of three-fourth (77,5%) versus one half (49,06%) in the suicide risk group.

As expected we also see a correlation between rate of M.I.N.I. Depression symptoms and suicide risk current (see Fig. 32 below). Those in the group ‘suicide risk current’ also score higher on the depression scale and vice versa. However also this interaction shows a significant improvement pattern ($F(2,76) = 7.40$, $p<.0012$).

M.I.N.I. Depression symptoms and suicide risk current at all 3 time points

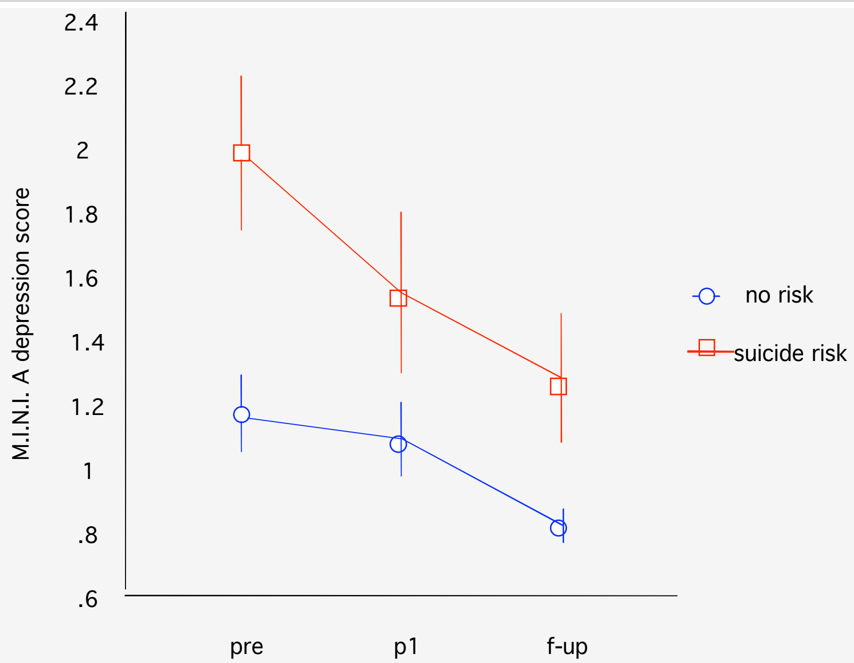


Fig. 32

The impact of treatment on school grades

School grades for subjects Tamil/English, Science, Sport/Art were recorded at time point pre, post 1 and final follow-up. Grades possible to achieve in the Sri Lankan school system are ranging from 0-100 for each subject matter. Unfortunately, at pre-test time point, almost half the grades could not be retrieved from the school administration. At p1 however, with more time to prepare, all grades were available and at f-up as few were missing as N = 7 grades for Sports, N = 6 for Sciences and N = 6 for Tamil/English.

We nevertheless undertook a calculation for change in school grades over time in respect to treatment received and gender. Data have to be interpreted carefully, since in order to get useful outset data, we averaged grades pre and p1 and then compared the percent of change to time point follow-up. Even though not statistically significant ($F(4,36) = 1.61$; $p<.19$) we observe that the KIDNET (only) and MED (first) + KIDNET (later) groups improved on average in school grades for languages: Tamil/English. This trend is reversed for MED (see Fig. 33 below).

School grade distribution by treatment at all 3 time points

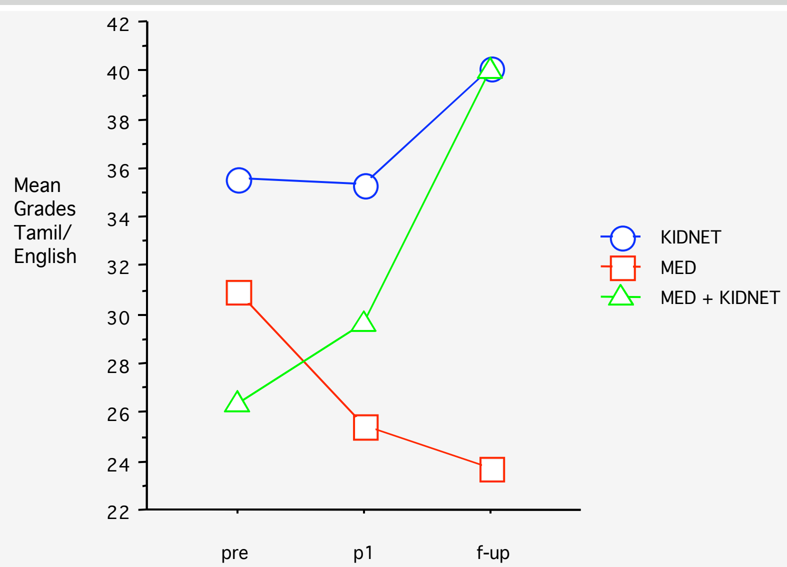


Fig. 33

A more in-depth analysis shows that once gender is entered as a variable, a significant change in Tamil/English school grades depending on type of treatment composite can be established ($F(2,33) = 5.16$; $p<.011$). KIDNET (only) children improve 9.3 percent, MED + KIDNET children improve 16.1 percent and MED (only) children worsen by 15.2 percent (see Tabl. 9 below).

Distribution gender & school grades by treatment at f-up1		
gender, type of treatment	mean	SD
f, KIDNET	9.3	28.3
f, MED	-3.2	20.2
f, MED + KIDNET	50.5	21.8
m, KIDNET	4.7	31.1
m, MED	-27.3	24.2
m, MED + KIDNET	-29.6	15.5

Tabl. 9

Looking at the interaction of the effect of the 3 treatments on percent change in school grade Tamil/English (see Fig. 34), split by gender, we notice once more improvement in the KIDNET groups overall, versus a change for the worse in the MED group. Now however we can also observe that it is the boys who overall perform more weakly and actuate the performance downwards. Computing a Fisher's PLSD for % change Tamil/English, split by female/male, a significance level of $p = .0024$ is reached. The same calculation does not reach a level of significance with Grades Science or Sport/Arts.

Distribution Tamil/English grades by treatment over time

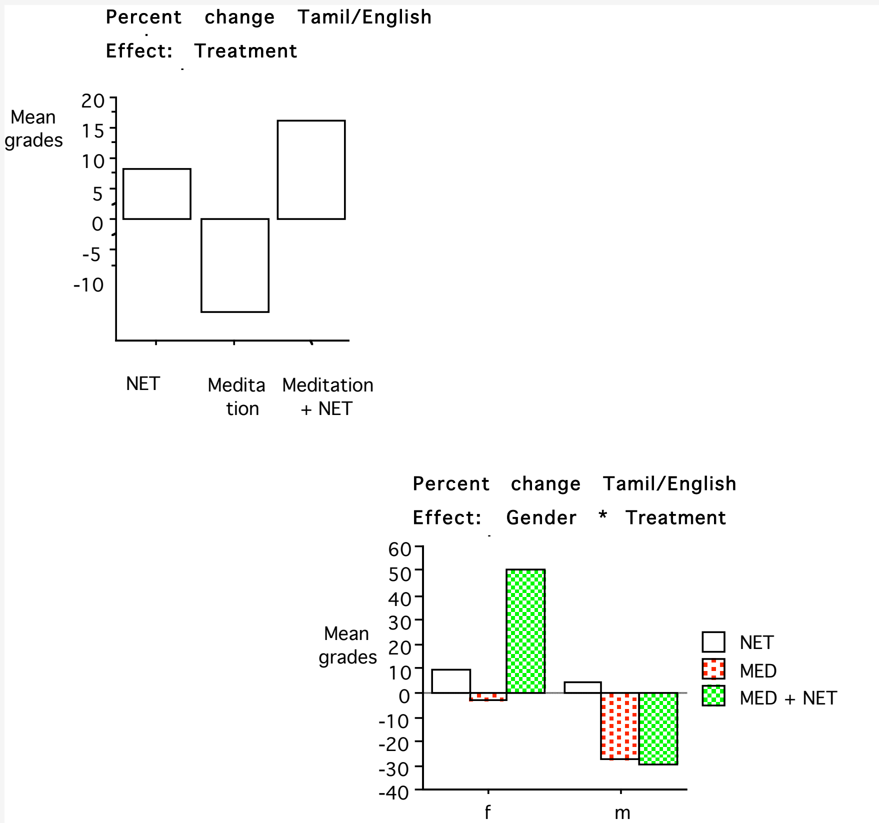


Fig. 34

The building block effect of trauma and its reversal after treatment

Even within this group of highly affected children (100 percent PTSD), a positive relationship between number of traumatic event types experienced and selected key indicators, such as health, CAPS trauma score, functioning impairment, depression symptoms, level of suicide risk current could be established (see Figs. 35-40).

Building block effect and selected key indicators

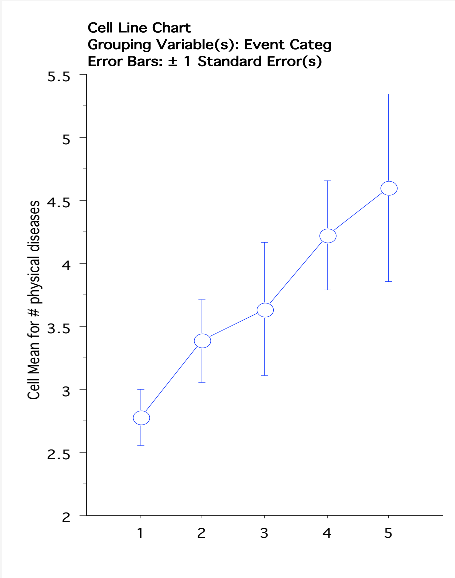


Fig. 35 # of traumatic event types & physical diseases

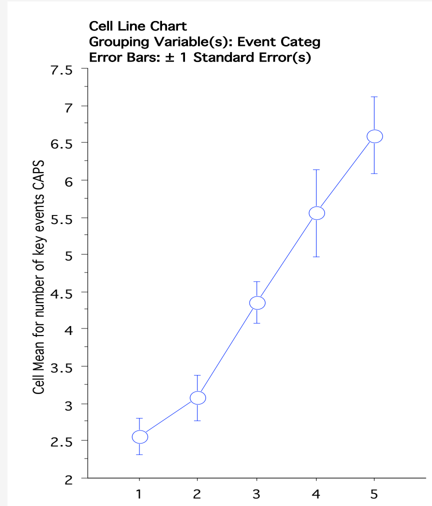


Fig. 36 # of traumatic event types & # of key events CAPS

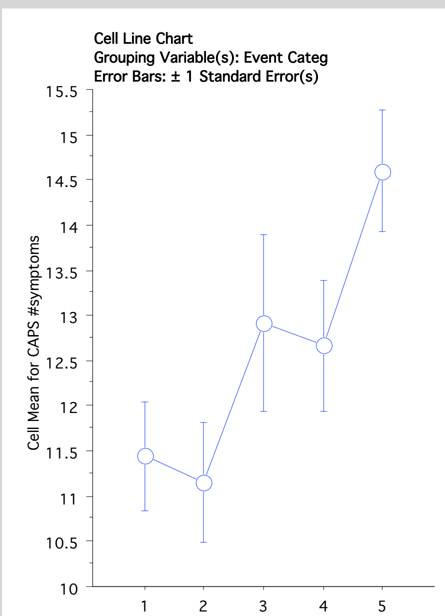


Fig. 37 # of traumatic event types & # of CAPS symptoms

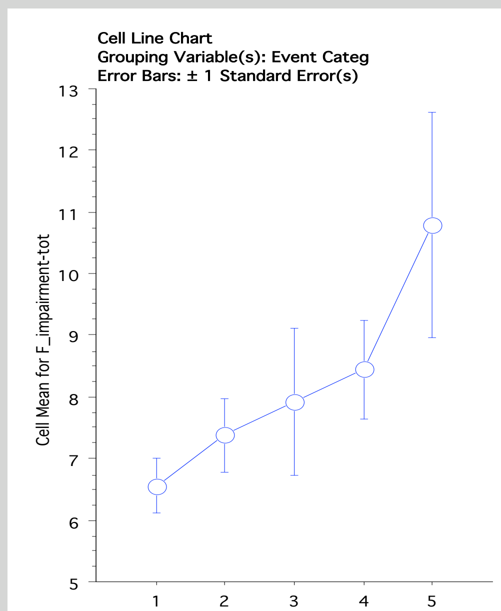


Fig. 38 # of traumatic event types & mean functioning impairment

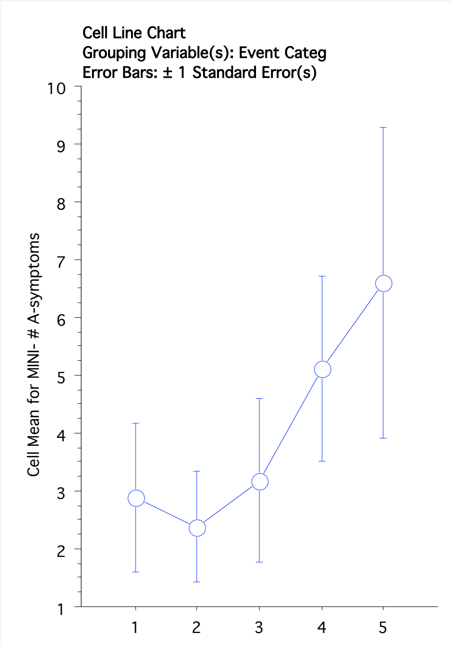


Fig. 39 # of traumatic event types & # of M.I.N.I. Depression symptoms

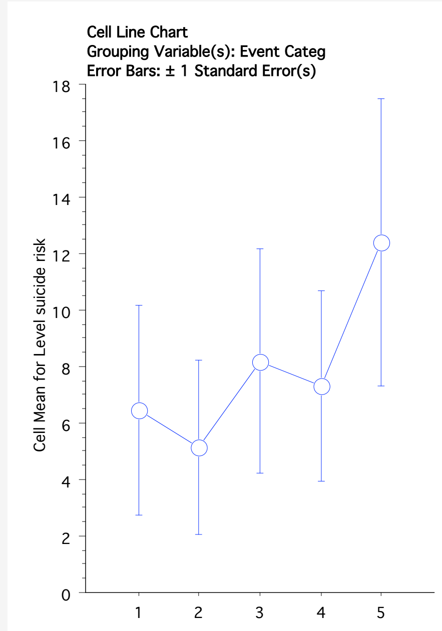


Fig. 40 # of traumatic event types & mean suicide risk current

Finally, a building block reverse after treatment dramatically shows the children's recovery. In Fig. 41 we can observe that the higher initial CAPS symptom load was at pre-test, the more these children benefited over a longer time course. Whereby pre-test to p1 shows a symptom reduction overall, leaving the shape of the building block pattern as such untouched, time course p1 to f-up flattens the curve and leads to a pattern of levelling out.

Building block reversal after treatment over all 3 time points

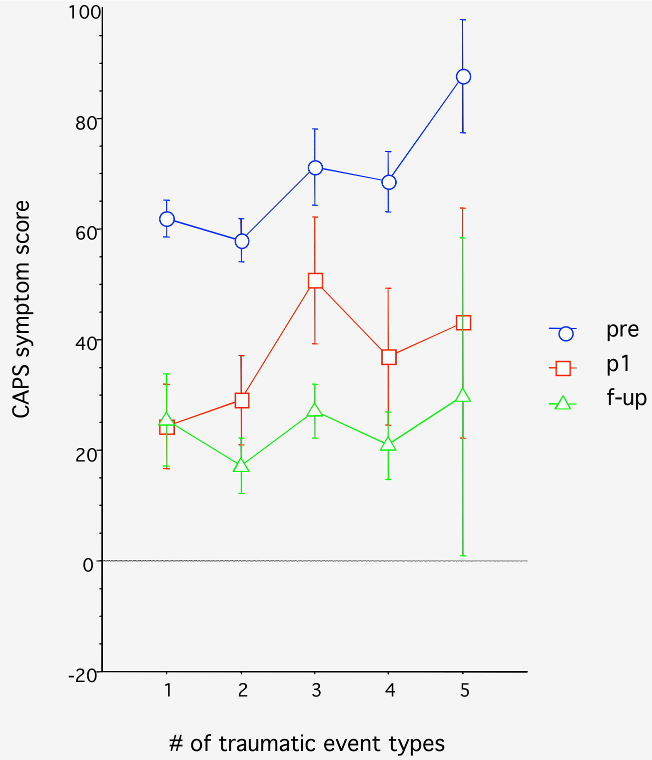


Fig. 41

5.7. Discussion

5.7.1. Limitations of the study

In December 2004, a few weeks after completion of all treatments, the Asian tsunami hit the coastline. Except for one child who was on visit during the holidays at a relatives' place and was taken by the wave, no further incidences e.g. deaths, illnesses or traumatic effects related to this event are known to us. There is however a likelihood that the collective experience of such a devastating regional crisis, might have had numerous effects on the well-being of our enrolled children, their families and teachers.

In this sense, the evaluation relied on a rather selected battery of targeted outcome measures; mainly PTSD severity score (including associated features), depression score, suicidal ideation and few related functioning variables. The limited instrument set is not likely to have fully captured the range of social and psychological effects of treatment in relation to critical life events and can contribute only minimally to the identification of mechanisms leading to outcomes beyond the individual clinical range. Also grief reactions were not measured in this study. The inclusion of a grief inventory, as pioneered by Cohen and colleagues (J. A. Cohen, Mannarino, & Knudsen, 2004) and recommended by colleagues (Dyregrov & Raundalen, 1992; Goenjian et al., 1997; P. A. Smith et al., 2002), might have allowed investigation on the extent of grief reactions and their relationship to trauma and depression symptoms. However despite non-observance on grief, depression and suicidality scores reduced in relation to the remission of trauma symptoms in both treatment groups.

A clustering effect might have influenced data distribution. Data were collected at 6 different schools in Vallikamam and Jaffna educational zones. Three schools were then randomly chosen to carry out KIDNET and three to carry out MED. Luckily, the schools seem to have fallen into equal clusters in respect to socio-economic status of parent population; one school in each group was graded as low in socio-economic terms, the other two in the middle ranges equally. When comparing CAPS trauma symptoms and CAPS functioning scores no significant differences could be observed between schools at pre-test and no statistically significant difference could be observed in remission pattern. Also the children's age distribution and migration history is even across schools. School grades of course could have been biased by clustering effects in relation to quality of teaching staff or diverse environment at particular schools. Also due to the flaring up of the conflict just before final follow-up at 13-months, quality of schooling probably suffered and was even interrupted at times; even though we do assume uniformity of impact of war, e.g. bombing, destruction, morbidity and mortality throughout Jaffna and Vallikamam educational zones, since schools are within driving range of one hour closely located to each other. The adverse circumstances could have biased explanatory power of school grades overall. Children might have been unable to attend regularly and teachers and families might have left for safer areas. Also due to the wide range of school grades in the Sri Lankan system (a grade could be located anywhere between 1-100 points), school grades as an outcome measure for cognitive functioning, proved to be not a strong enough variable. In a next step it would be desirable to have more data on the cognitive-intellectual impact of the treatment.

A waiting list would have been of course desirable. However, since the study was implemented in the framework of an aid project we could not have justified a waiting list set-up. Our ethical dilemma was also that all 47 children who presented with PTSD had very high symptom scores and some of the children serious levels of suicidal ideation; given the conflict circumstances we could not guarantee equal access to treatment at a later date, nor provide sufficient psychological support during waiting time. Further, our analysis showed that on average the children's worst events had happened 45.2 CAPS months back, leading us to assume that many of our young clients had continued to live with PTSD under adverse circumstances, such as ongoing armed conflict, displacement, orphanhood and poverty for years. Similarly, we had seen almost stable PTSD rates over time in three other child samples: 1) our first epidemiological survey in North-Eastern Sri Lanka (Elbert et al., in press), where expert validation reached a sensitivity of 62 percent, a specificity of 89 percent and a kappa of ~.80 half a year after the local teacher counsellor screening; 2) our first successful KIDNET trial with refugee and asylumseeking children at our outpatient clinic in Germany (M. Ruf et al., 2005), where a waiting list for 12 of the 25 enrolled children over a time period of 6 months found no spontaneous PTSD remission in the waiting list group and 3) our treatment trial with orphaned child survivors of the Rwandan genocide (Schaal et al., 2007), where re-interviewing for enrolment 12 months after the first diagnostic screening found no spontaneous remission of PTSD symptoms in the affected youngsters (in fact the majority of subjects reported CAPS worst event as far back as 11 years, usually the killing of a parents during the genocide of 1994). Also other authors have confirmed the persistence of PTSD in war or disaster affected child samples over time (Dyregrov, Gjestad et al., 2002; Goenjian et al., 2005a; Kinzie et al., 1989; McFarlane et al., 1987; P. A. Smith et al., 2002; Thabet & Vostanis, 2000; Yule, 2002; Yule et al., 2000), making us fairly confident that also in our case a waiting list might not have shown significant spontaneous improvement of PTSD symptoms.

Finally, there might have been an uncontrolled ‘social work’ effect, since counsellors would seek consent from parents in their homes prior to treatment and also gave extensive psycho-education to caretakers. Beyond prescribed protocol, we found that some teacher counsellors carried out information and psychoeducation visits to parents/caretakers if needed, held information meetings with principles, teacher colleagues and the community on child mental health and at times would initiate measures of assistance for children in difficult life circumstances, e.g. domestic violence and poverty. Overall of course this should rather be appraised as a strength and a finding that further intervention studies should build-on.

The fact that this study also enrolled children with severe and very severe trauma symptomatology of whom a majority was suffering from chronic PTSD, and additionally almost a third suffering from a comorbid Major Depression as well as a quarter also from suicidality current at time point enrolment, we assume that our findings also generalise to milder, less deep-rooted occurrence of trauma symptoms.

5.7.2. RCT for war-affected stayee children

At hand is a dissemination cluster-randomised controlled trial, which attempted to research the efficacy of Narrative Exposure Therapy for traumatised children, implemented by locally trained teachers counsellors in a field-based post-conflict setting. As noted by Foa and colleagues (Foa, 2000a) the study of treatment efficacy for posttraumatic stress disorder is still in its initial stages, particularly with regard to the treatment of traumatised children and adolescents. Indeed, a recent review (J A Cohen et al., 2000) identified no methodologically sound published PTSD treatment studies with war-traumatised children or adolescents. To the best of our knowledge, this is the first dissemination study for PTSD treatment of war affected children in a conflict zone, that meets gold standards for methodologically sound treatment outcome research as defined by (Foa & Meadows, 1997): clearly defined target symptoms; reliable and valid measures; blind evaluators to assess treatment outcome; adequately trained assessors; manualised, replicable, and specific treatments; unbiased, random assignment to treatment and evaluation of treatment adherence. Also as per recommendations of Foa and Meadows (1997), to separate therapist effects from treatment effects, we had more then one therapist, in fact 14 therapists deliver treatments. Groups started at exact same time points and finished treatments within two months. Both groups adhered to the exact same length of treatment duration (6 sessions per child). Whether treatment was satisfactorily adhered to was safeguarded by regular supervision meetings in groups, individual case supervision, random checks by supervisor as treatment was going on, satisfactorily filled treatment protocols and well documented KIDNET testimonies.

Since diagnosis was carried out in the framework of a clinical interview by experts with the help of highly trained translators, symptom over- or underreporting which is usually present in self-report, was minimised. The employment of expert pre-test, post-tests at 5 and 13 months, allowed for the capturing of trajectory of change on targeted outcome measures over time. The fact that the subjects were of similar age, were not seeking treatment, and were ethnically and culturally homogeneous reduced the possibility of confounds.

Furthermore, this study is a dissemination randomised controlled trial, involving only therapists who were locally trained teachers. Data analysis shows that lay persons (in our case teacher counsellors) can be successfully trained to apply a trauma-focussed PTSD treatment as well as a meditation/relaxation protocol, even with severely affected children. Beyond effective application of treatment, counsellors were also capable of identifying children who had not improved sufficiently and were still suffering from some form of impaired functioning, PTSD symptoms or depression symptoms; these children were offered additional treatment in form of a reversed protocol. Efficacy of treatment was also seen in the significant improvement of CAPS Functioning score. Except for two children (initially 3, but one was lost to follow-up), who presented with the highest possible amount of new traumatic events since end of treatment (6 traumatic events each), all children who have received KIDNET in this trial recovered from PTSD. Taylor's (2003) claim that skilled therapists may be better able to guide the pacing and difficulty of exposure exercises and lesser skilled therapists might tend to push participants to attempt exposure exercises that are too distressing to endure, resulting in aborted exposures to intensely distressing stimuli and therefore failed exposure which might promote avoidance and, therefore, be countertherapeutic, could not be shown by our data. All therapists were newly trained lay therapists, who seemed to have applied the exposure part effectively. We suggest that this has to do with the characteristics of KIDNET itself, whereby exposure elements in this treatment form are not artificially unhinged from the forward context flow and there is also no intentional, repetitive going back in the same session. But rather exposure elements within the framework of NET appear safely packaged in the context of a chronological, autobiographic narrative, which seems meaningful and comprehensible for the patient and structured in format, therefore possibly also easier to apply for newly trained therapists.

No dropouts occurred and all children completed the full treatment irrespective of protocol. This is in line with other KIDNET and NET studies where we have repeatedly shown very small or no drop out rates (Bichescu et al., 2007b; Ertl et al., 2007; Neuner et al., 2007; Neuner, Schauer, Klaschik et al., 2004; L. P. Onyut et al., 2005; M. Ruf et al., 2005; Schaal et al., 2007); and is in contrast to findings in other exposure-based trials (Foa et al 1991; Tarrier et al 1999; (Bisson & Andrew, 2007; Foa et al., 2005). There are no comparison data currently on dropout rates of war-affected children during active treatment. Even though we adamantly insisted on the principle of full informed consent, the teachers who carried out treatment were known to the child, parents and community and this fact might have biased rates towards completion of treatment.

Implementation took place within local schools, which increases the ecological validity of the findings (Seligman, 1995) and as Layne and colleagues put it, the generalisibility of the findings, due to "the use of heterogeneous 'real-world' groups of war-exposed students, school counsellors and community mental health professionals" (Layne et al., 2001). In line with colleagues (Chemtob, Nakashima, & Carlson, 2002; Goenjian et al., 1997; Kataoka et al., 2003; Layne et al., 2001; O'Shea et al., 2000; R S Pynoos, Goenjian et al., 1998; B. D. Stein et al., 2003; Yule, 2000) who have successfully implemented and advocated school-based mental health programmes, our trial proves the feasibility, effectiveness and efficiency of such a service programme, even in a war-torn setting, with local teachers as therapists. We conclude that school might in fact be a preferred place for screening and service provision in settings, especially were other national or population-based mental health structures have broken down or prove insufficient for any number of reasons. We predict further that such a model can only work in societies where education is of high collective value and where a majority of children actually attends school. It is of key importance to keep in mind that those children in developing countries or conflict regions who do not go to school, are probably the most adversely affected of all. Complementary services have to be tailored to attend to their specific needs.

5.7.3. Traumatic Life Experiences

As expected, the majority of children had experienced a range of adverse life events typical for a war-zone childhood and in alignment with other studies in North-Eastern Sri Lankan provinces (C. Catani et al., submitted; Chase et al., 1999; Elbert et al., 2007, in press; C. Schneider, 2005; D. J. Somasundaram, 2002; G. van der Veer et al., 2003): displacement, orphanhood, loss of loved ones, and a high load of other severely traumatising events (mean total 6 events), especially combat experience (73.6 percent) and witnessing as well as experiencing different forms of violence, torture and killings. These experiences left our affected children with an average of 65.6 CAPS trauma symptom points, which is in the range of severe post-traumatic symptom load (Weathers et al., 2001).

At p1 we became aware of an average of 1.6 new traumatic experiences that children had been exposed to since pre-test 6-months prior; 23 percent of children reported having witnessed and/or experienced violent events in their home, some of them extremely severe. This study does not have the power to research the interrelationship of children's exposure to trauma and parental PTSD in circumstances of war, disaster or organised violence. This link however is of key importance and one of our subsequent studies, which is presented in detail elsewhere (C Catani et al., 2007), has looked into this context. These data seem to support the 'cycle of violence' hypothesis, where we assume an escalated exposure to domestic violence and possibly also neglect and other adverse life events for children, if parents have been traumatised by the same experiences of war or natural disaster as their children. More research is needed to understand family dynamics after collective experiences of disaster, organised violence and war and its seemingly detrimental impact on the mental health of children.

5.7.4. Building Block

Studies carried out by our working group as well as those of other colleagues in war populations persistently show a building block effect in relation to 'number of traumatic events or event types experienced/witnessed' and the development of PTSD (Allwood et al., 2002; Almqvist & Brandell-Forsberg, 1997; C Catani et al., 2007; C. Catani, Schauer, Onyut et al., 2005; Chimienti et al., 1989; Deykin, 1999; Dyregrov et al., 2000; Goenjian et al., 2005a; Heptinstall et al., 2004; Hubbard et al., 1995; Kaplan, 2002; Karunakara et al., 2004; Mghir et al., 1995; Mollica et al., 1998; Mollica et al., 1997; Nader et al., 1993; Neuner, Schauer et al., 2006; Papageorgiou et al., 2000; Pfefferbaum, 1997; R S Pynoos et al., 1987; Schaal & Elbert, 2006; M. Schauer et al., 2003; C. Schneider, 2005; Scholte et al., 2004; Thabet & Vostanis, 1999). Even our small data set of 100 percent PTSD-affected children in this trial, can still confirm a building block effect correlation between 'number of traumatic event types' and selected indicators such as: 1) physical diseases, 2) number of key CAPS events, 3) number of CAPS symptoms, 4) mean functioning impairment total, 5) number of M.I.N.I. Depression symptoms and 6) suicide risk current. Interestingly, successful treatment can reverse the building block at least as it relates to trauma symptom load (see Fig. 35). It is also important to note that we could observe a dramatic building block reversal still ongoing during p1 and f-up in especially those children who presented with servere to very severe CAPS trauma symptom load at pre-test. This phenomenon leads us to predict that remission of symptom in the clinically severe group takes time and that 12-months follow-ups are a necessity, may be even longer term longitudinal follow-up. We also suggest that systematic 'unloading' of traumatic life experiences for severely affected children via focussed therapy might prevent the build-up of a traumatic stress load that leads to the development of PTSD. We can unfortunately not contribute to the discussion on early intervention with our data, since all children enrolled here had already developed PTSD, most of them chronic. Along those lines of thinking however, our Ugandan working group is currently implementing a study, where KIDNET is used as a preventative intervention to counter the development of PTSD in formerly abducted children who were exposed to serious traumatic life events while out in the bush (Ertl et al., 2007). The outcome of this study is hoped to contribute to the discussion on provision of preventive measures for children after disaster. We are encouraged also by a treatment study (C. Catani, Schauer, Kohila et al., 2005), which was implemented as early as 4-weeks after the tsunami disaster in Northern Sri Lanka with multiply trauma affected children (building block of war and natural disaster), showed significant efficacy of KIDNET on recovery of functioning and reduction of trauma symptoms and no adverse effects, unlike observation after debriefing interventions (McNally et al., 2003; Stallard et al., 2006; Thabet et al., 2005).

5.7.5. Treatment Efficacy

Our treatment, applied by locally trained lay counsellors, was effective. Irrespective of type of treatment and gender, the analysis of treatment outcome at p1 (5-months post treatment) revealed a highly significant reduction of CAPS trauma symptoms; with an effect size for KIDNET of 1.57 and MED 1.23. This outcome remained stable for the MED (only) and KIDNET (only) groups over 13-months. Those in the reversed protocol group with add-on KIDNET treatment also showed a significant and nearly complete remission of trauma symptoms at time point follow-up.

At the beginning of the study 29.5 percent of children presented with Major Depression; at time point f-up only 5 percent remained. M.I.N.I. depression symptoms reduced at 5-months and entered significance at 13-months follow-up for the KIDNET group.

The measured improvement in overall functioning underlines the same pattern at 5-months and was sustained at 13-months irrespective of treatment group children were allocated to; in fact graphs on trauma symptom decrease (Fig. 21) and decrease in functioning impairment (Fig. 23) are virtually identical in distribution pattern.

It is difficult to compare this data to other field-based trials, simply because almost no other controlled trials on PTSD treatment for war-affected stayee children exist. In fact overall there are only twenty-two controlled treatment studies of PTSD in children and adolescents globally:

- nine with child survivors of sexual abuse (Celano, Hazzard, Webb, & McCall, 1996; J. A. Cohen, E. Deblinger et al., 2004; J. A. Cohen, Mannarino, & Knudsen, 2005; Deblinger, Lippmann, & Steer, 1996; Deblinger, Stauffer, & Steer, 2001; Deblinger et al., 1999; Jaberghaderi et al., 2004; N. J. King et al., 2000; Trowell et al., 2002);

- one school-based trial with children who have been exposed to violence in the USA (B. D. Stein et al., 2003);
- one with adolescent survivors of childhood cancer (Kazak et al., 2004);
- one with boys who suffer from conduct disorder (Soberman et al., 2002);
- three with earthquake survivors (Galante & Foa, 1986; Giannopoulou et al., 2006; Goenjian et al., 1997);
- one of children surviving a ferry boat sinking (Yule, 1992);
- two of an earlier and follow-up hurricane study (Chemtob, Nakashima, & Carlson, 2002; Chemtob, Nakashima, & Hamada, 2002);
- one with various single civil incident stressors (March et al., 1998);
- and finally three with war-affected children: one with traumatised refugee children at our own outpatient clinic (M. Ruf et al., 2005); one by our working group with Somali refugee children in a Ugandan camp (L. P. Onyut et al., 2005) and one with children from Ghaza (Thabet et al., 2005).

The majority of these trials do not reach the standard of a truly randomised controlled trial; only a few actually based their intervention on manualised protocols, samples are very small, often enrolment is not based on standardised diagnostic PTSD criteria as in ICD or DSM and trauma types and number of events are intermixed. All this constitutes great difficulties for comparison and generalisation.

As far as PTSD treatment effect is concerned, the common findings in current research on children so far is, that short-term, trauma-focussed cognitive behaviour-based protocols, sometimes with an exposure component, are the treatment of choice (Ballenger et al., 2000; Dyregrov & Yule, 2006; Foa et al., 1999; Foa et al., 2005; Kazak et al., 2004; N. J. King et al., 2000; Kraft, Schepker, Goldbeck, & Fegert, 2006; NICE, 2005; B. D. Stein et al., 2003; Tarrier et al., 1999; Taylor et al., 2003). Based on the holistic view point of our consellors, the unsuccessful MED children were reversed and profited greatly from KIDNET. Their clinical impression is in agreement with the above mentioned literature. Overall however the

Meditation/Relaxation protocol showed equal outcomes to KIDNET in terms of significant efficacy at p1.

In a next step it would be important to test the MED protocols efficacy in a group setting. We suggest key effectiveness of intervention application at the level of public mental health in crisis regions, if local counsellors are trained to apply a structured Meditation/Relaxation protocol for the entire population, e.g. a school setting, then screen for remaining severely affected children after 6 months and add-on trauma-focussed therapy, such as KIDNET in individual setting where needed.

Prior to this trial, KIDNET proved efficacious, in treatment of war-affected children in other cultural and social settings, e.g. in an Ugandan refugee camp (L. P. Onyut et al., 2005) as well as with a child refugees who received treatment in our outpatient clinic in Germany (M. Ruf et al., 2005). Especially the latter trial could confirm similar recovery patterns as observed in our Sri Lanka trial, with a highly significant reduction of trauma symptoms once KIDNET was administered; also in the Ruf et al. trial a two-step process was carried out, whereby the prior waiting list received KIDNET after 6 months re-test. Similarly to our MED first and KIDNET later group, the postponed group recovered just as well. The fact that KIDNET proved equal to a Meditation/Relaxation comparison protocol is not in line with other NET and KIDNET studies where other active comparison protocols were applied less succesfully (Bichescu, Neuner, Schauer, & Elbert, 2007a; Neuner, Schauer, Klaschik et al., 2004; L. P. Onyut et al., 2005; Schaal et al., 2007). Nevertheless, our data here show that 38 percent of children in the MED group did not benefit from treatment. This ‘treatment resistant’ MED group, showed a significant reduction of PTSD symptoms at time point f-up (which was in real time a 6-months post-test for this sub-group) once KIDNET was added.

As far as functioning was concerned our findings are at odds with some other colleagues’ findings. The children in our sample showed severe functioning impairment at time point pre-test and later significant recovery, both in respect to CAPS trauma and M.I.N.I. depression symptom reduction. Therefore we can not support the often summoned notion of high of resilience and adequate levels of functioning among war affected children in spite of PTSD (Ahmad, Sofi, Sundelin-Wahlsten, & von Knorring, 2000; P. J. Bracken et al., 1995; Oras et al., 2004; Sack, Clarke, & Seeley, 1995; Sack et al., 1999).

Research further shows that treatments, which are child-focussed (individual) or include the child in therapy (mother-child or family-child) are superior in outcome to those, which only work with parents (Deblinger et al., 1996). Since our treatment was administered in the absence of parents we cannot contribute to this discussion. Child alone treatment, with parental consent and parental education, however seemed to work well sufficiently well in our case; without additional treatment of parents or involving parents directly in treatment.

Whether treatment should be administered to children individually or in groups is still widely discussed. One trial, which has attempted to research the effectiveness of a cognitive-behavioural treatment protocol administered in group- or individual setting after natural disaster, could show no significant differences in the outcome (Chemtob, Nakashima, & Hamada, 2002). A short-term group CBT protocol, which was applied for surviving children after the Athens earthquake proofed promising and its efficacy needs to be explored further (Giannopoulou et al., 2006). We hypothesise that it might be possible to administer the Meditation/Relaxation protocol equally effective to a group of children, not just individually. For KIDNET however we assume less positive outcomes, since the nature of the treatment, whereby events are narrated in great detail, might be distressing to listen to by other children. During narration of one child's event, others might be reminded of their own experiences, physiological arousal might be sparked and contents of a peer's trauma story might be interwoven in one's own memory. This notion remains to be scientifically tested.

5.7.6. New traumatic events & the differential effects of KIDNET vs MED

Interestingly both treatments (KIDNET and MED) were less effective if domestic violence was present or if new traumatic experiences had occurred since pre-test. A post-hoc analysis revealed that KIDNET proved exceptionally effective if no new traumatic events had occurred; or in other words, the treatment effect of MED was more stable in the presence of new traumatic stressors. What made MED more effective under adverse circumstances we questioned? In our conceptualisation of the benefits of Narrative Exposure Therapy, a trauma-focussed approach, we understand that this treatment provides a tool for the re-organisation of all relevant autobiographic memory, especially traumatic life events, from birth to present. As is known from exposure treatment, during actual recovery of traumatic memory a significant rise of physiological and emotional arousal has to take place in order to allow proper interweaving of 'hot' and 'cold' memory parts. After habituation and narration of the experience a healing effect is assumed, whereby the past memory is stored in a retrievable, context and time-based manner (M. Schauer et al., 2007). If now, during the weeks and months following therapeutic exposure, or even during the weeks when treatment was given, new traumatic events were experienced, the new, unprocessed sensory and emotional elements might interweave in an arousal-based 'hot' memory manner, disallowing the system to calm down and therefore countering some of the treatment effect. It is important to note that even though symptom remission appeared to slow down, no worsening of symptoms due to KIDNET in the ongoing violence group was observed.

The effects of the MED treatment might be explained in a very different way. Authors claim that relaxation and meditation-based therapy, also mantra chanting enables the patient to control fear reactions. He/she is imparted with strategies on how to deal with conditioned emotional reactions and increase a sense of self-control and coping (E. J. Brown, 2005; Ma & Teasdale, 2004). The occurring so-called 'relaxation response' (H Benson, 2000; Taylor et al., 2003) has shown beneficial effects especially on hyperarousal symptoms and a wide array of stress-related health conditions (E. J. Brown, 2005; Jacobs, 2001b; Paul-Labrador et al., 2006). So instead of assuming benefits from fear habituation, memory re-organisation or cognitive restructuring, meditation/relaxation protocols assume that the increased parasympathetic nervous system activity is involved in psycho-physiological recovery: restoring homeostasis, stabilisation of the autonomic and stress response system, triggering of the neuro-endocrine release of hormones (reduction of cortisol, elevation of prolactin and oxytocin) and thalamine generators (E. J. Brown, 2005; Sahar et al., 2001), visible in an increased left-sided anterior activation (R. J. Davidson et al., 2003). Once hyperarousal is reduced, the patient may be less distressed by trauma-related stimuli (Foa & Rothbaum, 1998) and, therefore, less avoidant. Some research also describes the effect of meditation and relaxation as 'systematic desensitisation', since it encourages the bearing of significant emotions, images or thoughts about the trauma (Kane, 2006). Mindfulness, especially is described as 'purposeless present awareness and attention per se, no matter what the mind's content might be at the moment' (Kabat-Zinn, 1990), again underlining the patient's ability to cope with the experience and even allowing a certain amount of reliving. Thus, relaxation training might encourage exposure, even in the absence of formal exposure exercises (Segal et al., 2002; S. L. Shapiro et al., 2006). Authors hypothesise that disengaging individuals from automatic thoughts, ruminations, habits, and unhealthy behaviour patterns, play a role in fostering informed and self-endorsed behavioural regulation (Ryan & Deci, 2000). Being awake, present and capable of mobilizing own resources to meet challenges moment-to-moment is another key effect and might mirror cognitive restructuring techniques; in our case of a war-torn, unpredictable childhood environment, an indispensable survival skill. Mindfulness has shown effective reduction and maintenance of reduction of symptoms in patients with generalised anxiety disorders, panic disorders and panic disorders with agoraphobia as well as chronic pain, depression and suicidal ideation (Kabat-Zinn, 1990; Kabat-Zinn et al., 1985; Kabat-Zinn et al., 1992; J. J. Miller et al., 1995; Ramel et al., 2004; Williams et al., 2006; Williams & Swales, 2004). Mantra chanting is traditionally not considered a relaxation technique, but a spiritual practice, whereby silently or aloud a chosen word or phrase is repeated frequently day and night. It's benefits, such as fewer intrusive thoughts, reduction of overall stress symptoms and anxiety, are seen in the one-pointed attention and the 'slowing down', as well as its comforting message, similar to cognitive restructuring, e.g. "I will be happy and make others happy", "I am healed", "take it easy" (Bernardi et al., 2001; Bormann et al., 2005; Fabbro et al., 1999).

In summary, we assume that meditation/relaxation skills might help children cope with anxiety and stress when faced with an abusive and violent living environment. This ability might mirror in the more stable MED outcome, especially when ongoing traumatic stress was present post-treatment. Unfortunately our MED protocol employs a mix of assumed active ingredients. More research is needed, applying distinct, single active elements of meditation or of relaxation techniques, like e.g. mindful breathing or mantra chanting or body relaxation alone, in order to allow disentangling and extraction of helpful ingredients. Another important follow-up investigation must be concerned with the application of our MED protocol in-group settings, e.g. class room-based and implemented in other ethnic, cultural and/or religious settings. Should the assumption of its effectiveness in groups and cross-culturally hold true, public mental health intervention could focus on the implementation of group-based meditation/relaxation projects by local lay counsellors, with a screening component and an opportunity of referral to individual short-term trauma treatment for those children, who do not benefit from the group intervention. This could be a highly effective and resource protecting strategy for crisis regions where vast numbers of people are affected by traumatic stress and its consequences and very few professionals are available to carry out traum treatment.

5.7.7. Health Indicators

Unfortunately we do not have sufficient follow-up data in regards to health indicators. The 4-week local counsellor post-tests show that headache, a common somatic complaint in children suffering from PTSD (APA, 1994; Joshi & O'Donnell, 2003; Kendall-Tackett, 2000; Lauterbach et al., 2005) remained almost stable. Other health indicators, especially shivering, fever, pain and vomiting did significantly improve however immediately post treatment. When comparing treatment induced changes in health outcomes, no level of significance could be established between the two different treatment types. We can only suspect that benefits of treatment could have been observed much later, at time point follow-up. In a treatment study with adults by our working group with refugee populations in an African settlement (Neuner et al., 2007), we could show that physical illness, especially diarrhoea, cough, pain, headache and fever significantly reduced with trauma-focussed therapy versus the monitoring group. This was additionally attested at the time by the camp’s medical centre manager, who reported that service ultilisation in the treated camp population had decreased significantly. Along those lines, a metaanalysis by Chiles and colleagues (Chiles, Lambert, & Hatch, 2002) found that 90 percent of studies report a decrease in US medical service use after psychological intervention in adults; in fact the control group reported a 12.3 percent increase of healthcare utilisation over time. Elevated levels of health care utilisation in relationship to PTSD was also observed in a review by Schnurr (Schnurr & Jankowski, 1999) and Calhoun and colleagues in veterans (Calhoun, Bosworth, Grambow, Dudley, & Beckham, 2002).

History of PTSD in adults seems related to overall worse physical health outcomes, in fact a wide range of disorders (Schnurr & Jankowski, 1999); some of the stress-related, such as asthma, hypertension, ulcers and decreased immune functioning (Carr, 2004; Rohleder & Karl, 2006); Wessa and Rohleder (Wessa & Rohleder, 2007) specifically point out alterations in endogenous stress hormone systems and hormonal alterations at the central and peripheral level of the central nervous system. Also disorders not typically related to stress, such as visual/hearing impairment, diabetes, kidney/liver disease, lupus/thyroid/autoimmune diseases, epilepsy/neurologic disorders and stomach/gallbladder disorders are identified by research (Kendall-Tackett, 2000; Lauterbach et al., 2005). A better understanding of child specific somatic complaints, such as headaches, fever, gastrointestinal problems and their trajectory over time in relation to treatment might add much needed clarification on the discussion of whether exposure-based treatment might have a positive impact on health indicators (J. W. Pennebaker & Seagal, 1999) or not (Kloss & Lisman, 2002) and it might render diagnostic criteria of child PTSD more precisely, especially children's symptom expression (APA, 1994; Joshi & O'Donnell, 2003; Scheeringa, Wright, Hunt, & Zeanah, 2006).

To understand and treat somatic complaints correctly might in fact be a determining factor for the survival of child populations in circumstances of complex emergencies and humanitarian crisis in resource poor countries. A weakened immune-status due to traumatic stress under circumstances of exposure to poverty, malnutrition and manifold infectious diseases in the context of absent or inadequate health services might partly explain current high child mortality rates in (post-) conflict settings.

5.7.8. Depression

Many studies show that children in war-torn regions repeatedly show increased rates of depression (Clarke et al., 1993; Goenjian et al., 1997; Goenjian et al., 2001; Kinzie et al., 1989; Mghir et al., 1995; Saigh, 1991; Schaal & Elbert, 2006; Zivcic, 1993) and that depression is strongly associated with posttraumatic stress disorder in war affected children (Chase et al., 1999; Dyregrov & Raundalen, 1992; Hubbard et al., 1995; Husain et al., 1998; Kinzie et al., 1989; Papageorgiou et al., 2000; Sack et al., 1994; Saigh, 1991; Zivcic, 1993). The findings in our sample of 100 percent PTSD-affected children is in support of these research findings and shows a M.I.N.I A Depression rate of 29.5 percent. In comparison to other post-war surviving children (D. G. Kilpatrick et al., 2003; Sack et al., 1994; Schaal et al., 2007), these rates of comorbid depression are at the lower end. Like other colleagues (Goenjian et al., 1995; Schaal et al., 2007; Thabet et al., 2004), we could also show a building block pattern of number of traumatic events in relation to depression symptoms (M.I.N.I. A), even in our highly affected group of children (see Fig. 33). Our study cannot add information to the question of whether depression is a longer term or delayed onset consequence of living with the adversities of a post-war society, or whether it is a result of living with PTSD. On one hand, since a majority of children suffered from chronic PTSD at time pre-test, and since a significant remission of depression symptoms was achieved through treatment, parallel with remission of symptoms of PTSD, we assume a direct relationship of depression and PTSD symptoms in children. This is in support of Smith and colleagues (2002) who argue that depressive feelings among children might be a secondary consequence of PTSD symptoms, rather than of exposure directly. Sustentative to this, new traumatic events (pre-test to p1) in our current sample did not disturb the remission of depression symptoms, even though it slowed down remission of PTSD symptoms and weakened recovery of CAPS functioning score. Also Yule and Udwin (Yule & Udwin, 1991) as well as Goenjian (Goenjian et al., 1997) find an increase in levels of depression over time among adolescents with chronic PTSD. The Chase et al. (1999) study in Sri Lanka found that depression symptoms were more than double in those children who scored high for PTSD. In support of this hypothesis our working group did not find significantly increased levels of depression in the absence of posttraumatic stress symptoms in Ethiopian AIDS orphans, despite highly elevated levels of grief (Winkler, 2006). Also treatment in our sample had a powerful and lasting overall impact on reducing M.I.N.I. depression score along with PTSD symptom score and parallel recovered functioning.

We conclude that symptoms of depression are closely tied to PTSD in children and that trauma symptoms contribute to the onset and severity of secondary depression in children. It remains to be answered how far socially supportive circumstances or favourable life circumstances are able to mediate post-traumatic depression (P. A. Smith et al., 2002). We can assume a possible ‘social work’ bias at work, whereby the mere fact that children had been enrolled in treatment and parental consent was sought by a visit of a teacher counsellor to the child’s home, a positive change in the child’s immediate care taking environment might have taken place, which could have in turn influenced the depression score.

5.7.9. Suicidality

27 percent of children in our study presented with comorbid M.I.N.I. suicide risk current. This is in line with other studies that show a significant relationship between PTSD and child suicidality (Ballenger et al., 2000; Chase et al., 1999; Elbert et al., in press; Famularo et al.,

1996; Schaal & Elbert, 2006). Schaal & Elbert (2007) could show that almost three-fourth (72.5 percent) of young Rwandan genocide survivors in their interviewed sample with PTSD had a suicide risk, compared to one-fifth (19.2 percent) in those without. Our earlier epidemiological study (Elbert et al., in press) in the LTTE-controlled areas of North-Eastern Sri Lanka, showed a highly significant relationship between PTSD and risk for suicide, which was diagnosed for 26 percent of the children with PTSD, but only for 7 percent of children without PTSD. Nevertheless, our data show that children with PTSD and suicide risk benefit equally irrespective of treatment as do children with PTSD alone and no suicide risk, despite the fact that the former presented with a higher entry level of CAPS trauma symptoms. It is also noteworthy that children who presented with moderate to high suicidality and received KIDNET (alone) take longer to decrease in suicidality, but do so successfully at timpe point f-up. Again a supportive argument to include longitudinal follow-up after trauma treatment, at least in form of a 12-months post-test.

Suicidal ideation seems to remit parallel to reduction of CAPS trauma symptoms and CAPS functioning impairment. There is also a positive correlation between M.I.N.I. depression symptom reduction and decrease of suicide risk current. Unfortunately there are no other RCT treatment studies with children, which could help shed light on the link between the interrelatedness of PTSD, depression and suicidality symptom course in relation to treatment. Oquendo et al. (M. Oquendo et al., 2005) and Ferrada-Noli (Ferrada-Noli, Asberg, Ormstad, Lundin, & Sundbom, 1998) state that the co-occurrence of PTSD and major depressive disorder enhances the risk for suicidal ideation in adults. A study with young orphaned adults who were children during the time of the Rwanda genocide (Schaal et al., 2007) shows that number of traumatic events and female gender emerged as key predictors of suicide risk current. Our data shows that there is no significant gender difference. Unlike the present study, Schaal & Elbert (2007) state that even though PTSD and depression symptoms remitted with treatment, there was no direct impact on suicidality, irrespective of treatment. This study shows a highly significant effect of treatment on suicidal ideation irrespective of treatment type, in fact all except two children remitted to zero M.I.N.I B score and none of the treated children got worse. We suggest that an age factor might be at work, allowing a treatment effect on suicidality in younger children and may be not as significant in adolescents or adults. This notion remains to be tested. We can also not exclude a ‘social work’ effect, since all parents of participating children in our study were visited for an intense talk by the counsellor at home, if a child was moderate to highly suicidal. In the Rwandan settings, children had grown up without parental support and experienced social exclusion as adults, as well as unemployment and higher than average poverty compared to non-orphaned suvivors. In any case, in light of the outcomes of this study, it is not justified to withhold trauma treatment from children with PTSD who also score high on suicidality current at time point enrolment.

5.7.10. Gender

Unlike other authors (Basoglu, Kilic, Salcioglu, & Livanou, 2004; D. G. Kilpatrick et al., 2003) (M. A. Oquendo et al., 2003; Schaal et al., 2007; P. A. Smith et al., 2002), we can not confirm a gender difference in relation to CAPS trauma symptom score, symptom score depression nor suicide risk current in our sample. We do find a gender specific effect of treatment on school grades languages (please see following chapter 5.8.10.). One explanation might be that our sample consisted of 100 percent PTSD patients and due to the fact that our subjects were still rather young, the experience of gender-specific violence might not seem to come to bearing yet. We also assume that the effect of gender-related psychopathology disappears when correlated to amount of exposure to traumatic events and detrimental life events. We postulate a building block effect, rather than gender specific vulnerability.

5.7.11. Impact of treatment on school grades

Functioning measures were recorded via CAPS-CA at three time points. Functioning recovery was significant and almost parallel to remission of symptoms of PTSD, depression and suicidality. We felt that school grades might be one additional meaningful measure of functioning worth examining, allowing us to contribute to the discussion on impact of trauma and cognitive functioning; also we felt we could access school records easily, since this was a school-based treatment study. Overall, the significance of treatment outcome on our school grades is low, since records are not complete and schooling was compromised due to the flaring up of the armed conflict. Course of school grades could also have been biased by a clustering effect. Nevertheless we find an effect of KIDNET, especially in terms of improvement of school grades in languages Tamil and English; which reaches significance only once the sample is split by gender, and the girls remain. We can observe that the boys with PTSD perform poorly overall and accentuate school performance downwards. In fact language grades of children in the MED treatment group deteriorated over time. There is no influence of type of treatment on school grades on the subjects Science and Art in either treatment group. In an earlier study (Elbert et al., in press) we could show that children who suffer from PTSD also suffer cognitive impairment, specifically expressed as a deficiency in memory functioning. Also in this sample of school children we found a particular weakness in PTSD children's language ability in subjects Tamil and English. No such difference was found in respect to physical and motor skills in school subjects Sports, Arts or Handicraft. Based on the psycho-physiological concept of PTSD, on which Narrative Exposure Therapy has been developed, we assume that neuroanatomical and neurophysiological changes peri- and posttrauma directly decrease a child's ability to express in words (Fox et al., 1988; Joshi & O'Donnell, 2003; Kolassa & Elbert, 2007). In support of our concept of memory reorganisation after KIDNET, we can speculate that especially the reconnection of language centres to hippocampal functioning might be beneficial. The left insular has been ascribed a key role in expressing verbal affect, and insular dysfunction could play a key role in the decoupling of emotional from language centres, leading PTSD victims to be caught in the speechless terror of their intrusive memories (I T Kolassa et al., 2007). We now have first indication that successful therapeutic intervention can change the brain's structure and functioning (Elbert et al., 2005). May be the active therapeutic element in KIDNET is its capacity to reinstate functioning of certain brain activities, which bring about a process of increased ability to connect the experience to language and meaning. Whereby mediation/relaxation protocols might have an impact on the basis of calming down the system due to the 'relaxation response', but however cannot interfere directly with the brain's structure or functioning; the pathology as such persists and the cognitive performance is increasingly impaired over time. Such concrete interpretation of our finding can of course only be understood as a first brain storming, which ideally needs to be put to test in further trials.

In summary research themes that remain to be addressed: the concept of diagnosing PTSD in children; pre-existing conditions and their relationship to the development of PTSD under conditions of conflict; how to effectively reduce 'building block'; the interplay of depression, grief and trauma symptoms in children; protective factors in a community that foster children's resilience; the contribution of school in meditating trauma symptoms in children; determination of the most effective treatments for war exposed children, especially those that remain in proximity to war threads and traumatic reminders; dismantling studies that test active ingredients of compound interventions, especially in group settings; effects of parental factors on child symptoms, at any age; identification of needs of children who were exposed but are asymptomatic; cost-effectiveness of different approaches in resource-poor settings, especially short-term and group-based modules.

6. PSYCHOLOGICAL REHABILITATION OF CHILDREN IN CRISIS REGIONS: A PARADIGM SHIFT

In the advent of efficacious, methodologically sound, culturally accepted and disseminable trauma treatment approaches, such as Narrative Exposure Therapy and structured, local best-practice protocols, such as our Meditation/Relaxation intervention the controversy around 'mental health' versus 'social', 'psycho-social' and 'economic' assistance reverses. Our described intervention proofs the possibility of the build-up of a large-scale population-based service structure in a resource-poor, post-war setting and demonstrates the cross-cultural applicability and successful integration of Western psychotherapeutic approaches; highlighting important questions concerning resource inputs and cost efficiency. Issues of prioritization, which have so far played a key role in humanitarian assistance after conflict and disaster, and common debate themes, around economic in favour of psychological recovery should be viewed in light of these new developments in the field. We postulate that evidence-based public mental health assistance is a humanitarian and ethical first order imperative, given newly emerging science related to current public mental health approaches; especially the involvement of local expert and lay personnel in systematic screening of affected populations, stratification of interventions on the basis of assessment, provision of trauma-focussed and other possibly local, scientifically evaluated best-practice interventions as well as monitoring of course of recovery, within a community-based, comprehensive disaster/war recovery program.

Finally and most importantly we need to learn to design and apply interventions based on furthering the implementation of the Convention of the Rights of the Child (CRC), equally for all children, no matter where they are born and growing up. Public mental health interventions must at their core respect children's rights to health, adequate care, education and protection from abuse and violence; including cultural/religious/ethnic malpractice, domestic violence and war and not any longer withhold evidence-based treatment from those who need it most. "We should never forget that history repeatedly has shown that we as adults have overlooked, disregarded and denied the pain and suffering of children." (Dyregrov, Gupta et al., 2002) We must learn to listen to children, to hear children clearly, and to use the information they can give us directly, especially when planning mental health services. Beyond accurate data collection directly from children, not just from their caretakers, children's narratives can form an important base for peace in society (Biton & Salomon, 2006). Schools are a natural child environment and teachers are a vastly unexplored potential to aid effective mental health service provision in times of crisis, war or complex emergencies.

Concluding recommendations for the build-up of best practice interventions, based on a public mental health approach for children in crisis regions therefore read as follows:

- begin project planning with sound epidemiologic data collection and community-wide screening to identify children and caretakers at risk; including children's experiences, socio-demographic indicators, trauma and loss exposure, adversities experienced, current levels of traumatic stress related symptoms and co-morbidity (C Catani et al., 2007; C. Catani, Schauer, Onyut et al., 2005; Karunakara et al., 2004; Neuner, 2003; Neuner, Onyut et al., 2006; Neuner et al., 2007; Odenwald et al., 2007; P. L. Onyut et al., 2004; Saltzman et al., 2003; Schaal & Elbert, 2006; E. Schauer, Kohila, Catani, Onyut, & Schauer, 2005; M. Schauer et al., 2003; Yule, 2000);

- if numbers of children in need are high, aim for a community-based, multi-tiered, public mental health approach to service delivery (hierarchic cascade model structures); able to address needs of children, caretakters and their immediate community. This means, layered training for lower level (screening, psychosocial activities, community link, awareness raising, referral) and higher level experts (counselling, therapy, supervision, training facilitation) within a referral system; at times engaging complementary psychosocial domains (Ager, 2002; Kozaric-Kovacic et al., 2002; Neuner et al., 2007; R S Pynoos, Goenjian et al., 1998; Saltzman et al., 2003; E. Schauer et al., 2005; D J Somasundaram, 2007; Yule, 2000);

- offer training to develop the capacities of local service providers and build local support structures so that an intervention program ultimately can be sustained by people within the communities served. For this, it seems beneficial to include trainees' personal experiences and local knowledge as well as the introduction of scientific global standards:

> "The trainers should use the life-experiences of the trainees, including their traumatic experience; and also their experiences in coping or receiving help in coping with the psychological after effects...the course should also be aimed more explicitly at linking Western notion of counselling with local views on experiences with healing." (G. van der Veer et al., 2003)

This should include the partnering of local expert practitioners from, e.g. academia, mental health, medicine, education, counselling, law, activism, with international expert practitioners of the same ranks, thereby ensuring that local methods as well as science-based knowledge and skills are available to the trainees and collaboration is guaranteed (E. J. Brown & Bobrow, 2004; R. Dybdahl, 2001; Galappatti, 2003; Gurwitch, Sitterle, Young, & Pfefferbaum, 2002; Neuner et al., 2007; Saltzman et al., 2003; E. Schauer et al., 2005; D J Somasundaram, 2007);

- base the implementation structure on children's 'natural communities', such as the school-system (Chemtob, Nakashima, & Carlson, 2002; Goenjian et al., 1997; Kataoka et al., 2003; Layne et al., 2001; R S Pynoos, Goenjian et al., 1998; B. D. Stein et al., 2003; Yule, 2000). Restoring structured education helps to restore the normalisation, stability and continuity of children's lives. Classroom settings provide predictable routines, as well as social interaction and friendships (Yule, 2002). Even in the post-conflict context, schools seem to constitute the most effective and efficient setting in which to provide post-disaster or post-war mental health assistance to children and their families (R S Pynoos, Goenjian et al., 1998). Schools can help in monitoring children's adjustment and level of coping, and can facilitate the provision of professional help when it is needed:

> "Schools are in a vital position to ensure that children's mental health needs are recognised and appropriate help is offered. Both in the position of a good caring atmosphere and in seeking appropriate outside support, schools can make an enormous difference to the future adjustment of children who have been the unwitting victims of adult's failures to resolve differences other than by force." (Yule, 2000)

There is a need however for appropriate training of teachers to recognise signs of distress in the children, to understand its causes, to learn classroom skills (e.g. child-friendly teaching methods), on how to deal with difficult situations, to know when and whom to refer children on to for more experienced help or to be able to extend appropriate counselling (Macksoud, Dyregrov, & Raundalen, 1993) (Macksoud et al., 1993; Yule, 2002). Supportive relationships with teachers are important predictors of the psychological well-being of traumatised children (E. Schauer et al., 2005; Udwin et al., 2000; Vernberg, Silverman, La Greca, & Prinstein, 1996). In turn the school community is also a direct vehicle to support parents and teachers who have been affected by the violent events themselves, since in return, assisting the recovery of caretakers is an important component of children's recovery (E. J. Brown & Bobrow, 2004; J. A. Cohen, E. Deblinger et al., 2004; R. Dybdahl, 2001; Gurwitch et al., 2002);

- design appropriate 'mental health & psycho-educational' resource, screening and training packages for the various tiers, including a short-term, structured trauma treatment module focussed on helping children and their caretakers deal with traumatic stress related symptoms and bereavement, able to be applied by locally trained paraprofessionals (Children and War Foundation, 2006; Dyregrov & Yule, 2006; M Ruf et al., 2007; Saltzman et al., 2003; E. Schauer et al., 2004; M. Schauer et al., 2005; Yule, 2000);

- base counselling and therapy for war and violence affected children on a human/child rights-based, testimonial approach, which acknowledges past injustice and favours social change (Cienfuegos & Monelli, 1983; Lykes, 1994; M. Schauer et al., 2005; Staub, 2004);

- design a public awareness raising strategy, able to educate the population, especially parents and caretakers, but also officials and decisionmakers, on child mental health issues; increasing the understanding of the long-term effects of trauma exposure and loss, introducing skills for coping at various levels and giving information on support activities (Children and War Foundation, 2006; Dyregrov & Yule, 2006; Saltzman et al., 2003; Yule, 2000) and research on targeted public mental health message development for best-practice trauma symptom remission in the population, based on recent development of known measures of cognitive intervention for trauma symptom mediation in affected individuals (Ehlers et al., 2005).

- and finally, and most importantly in the current absence of it, ensure a rigid form of evidence-based project evaluation (WHO, 1998).

Knowing what we know today leaves us with the immediate ethical obligation to apply and pro-actively further such best practice interventions.

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8. ANNEX

Please see CD-Rom for the following documents:

-Informed consent English & Tamil MED

-Informed consent English & Tamil KIDNET

-MED manual English & Tamil

-Project staff

-Protocol sheet English & Tamil

-Psychoeducation English & Tamil MED

-Psychoeducation English & Tamil KIDNET

-Socio-demography English & Tamil

-UCLA Functioning English & Tamil

-Contract Counsellor final

-M.I.N.I. KID Screen

ENDNOTES

[i] The portion of Northern and Eastern under the control of the LTTE is run as a de facto quasi-independent state, with its own supreme court, police force, army, navy, air force, intelligence agency, and even a central bank, although these institutions are not formally recognized by the Sri Lankan government. It is dependent on electricity and commodity supplies from the government held area through the A9 highway. It does not have its own currency and uses the Sri Lankan rupee.

[ii] The Black Tigers are special operatives of the LTTE that commit suicide if needed to reach their objectives. They are considered to be one of the most elite and lethal suicide bombers in the world. More than 270 Black Tigers have died in various actions on land and sea, almost all in Sri Lanka. Their victims include Indian Prime Minister Rajiv Gandhi and Sri Lankan President Ranasinghe Premadasa. The LTTE are keeping the Black Tiger unit active, as witnessed by their commemoration ceremonies of "Black Tigers Day" on 5 July 2006. The LTTE cadres that volunteer for the Black Tiger unit get extensive training but are then believed to return to their previous unit, without revealing their new assignment. They will then be called up if needed, and if so will have a last meal with the LTTE leader Velupillai Prabhakaran.

The Black Tigers are believed to be the most effective unit of its kind in the world, as the rest of the LTTE it is also secular, not driven by religious fanaticism. The creation of the Black Tigers is based on the LTTE's studies of ‘Asymmetric warfare’; thus using suicide cadres balance the government's greater resources (TIME Magazine, 2006).

[iii]**war** is defined as a violent mass conflict, with several distinct features: fighting takes place between two or more armed parties, of which at least one is a regular military body and on both sides a minimum of centrally organized, planned and continuous logistic of the fight exists; a war ends, when fighting ceases permanently or at least for the duration of one year (AKUF Arbeitsgemeinschaft Kriegsursachenforschung, 2004).

[iv]**armed conflicts** are violent hostilities, which do not entirely fulfill the criteria of war; generally sufficient continuity of fighting is not yet or not any more present (AKUF Arbeitsgemeinschaft Kriegsursachenforschung, 2004).

[v]a workable definition of **organised violence** can read as follows: “Organised violence is violence that is directly and actually applied with a systematic strategy by members of a group with at least a minimum of centrally guided structure. It is applied with a certain continuity against individuals and groups with a different political attitude, nationality as well as racial, cultural and ethnic background. It is characterized by the violation of central human rights or other basic rights of people.” (Derriennic, 1971; Galtung, 1969)

[vi] **suicide terror attack** is defined as “a politically motivated violent attack perpetrated by a self-aware individual (or individuals) who actively and purposely causes his own death through blowing himself up along with his chosen target. The perpetrator’s ensured death is a precondition for the success of his mission…modern suicide terrorism reflects the phenomenon of terrorism in its most extreme form.”(Schweitzer, 2000)

[vii] The **Association for Health and Counselling in Jaffna** was founded in 1987, just after a war between the Indian Peacekeeping Force and the Liberation Tigers of Tamil Eelam, which resulted in death and injury of many civilians on the Jaffna peninsula. Later, when the association started to provide services, it became known as ‘Shantiham – the house of peace’. Since its opening Shantiham has provided assistance to an estimated 30,000 clients and continues to do so in 2007, despite incidences such as office bombing (1990), forced displacement of its members (1995) and recurrence of armed conflict (2007) (G. van der Veer et al., 2003).